SITE ASSESSMENT REPORT
FOR
BAUTSCH-GRAY MINE SITE
JO DAVIESS COUNTY, ILLINOIS

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency Response Branch
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

Prepared by:

WESTON SOLUTIONS, INC.
20 North Wacker Drive, Suite 1210
Chicago, Illinois 60606

Date Prepared	March 9, 2010
TDD Number	S05-0001-0909-011
Document Control Number	767-2A-AFJA
Contract Number	EP-S5-06-04
WESTON START Project Manager	Lisa Graczyk
Telephone Number	312-424-3339
U.S. EPA On-Scene Coordinator	Leonard Zintak

SITE ASSESSMENT REPORT
FOR
BAUTSCH-GRAY MINE SITE
JO DAVIESS COUNTY, ILLINOIS

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency Response Branch
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

Prepared by:

WESTON SOLUTIONS, INC.
20 North Wacker Drive, Suite 1210
Chicago, Illinois 60606

March 9, 2010

Prepared by: _____ Date: 3/9/2010
Jonathan Colomb
WESTON START Member

Reviewed and Approved by: _____ Date: 3/9/2010
Lisa Graczyk
WESTON START Project Manager

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
FIELDS	Field Environmental Decision Support
GPS	Global positioning system
IEPA	Illinois Environmental Protection Agency
MCL	Maximum contamination level
mg/L	Milligram per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OSC	On-Scene Coordinator
ppm	Part per million
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
START	Superfund Technical Assessment and Response Team
SVOC	Semivolatile organic compound
TCLP	Toxicity Characteristic Leaching Procedure
TDD	Technical Direction Document
U.S. EPA	U.S. Environmental Protection Agency
VOC	Volatile organic compound
WESTON	Weston Solutions, Inc.
XRF	X-ray fluorescence

1. INTRODUCTION

The U.S. Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) to assist U.S. EPA On-Scene Coordinator (OSC) Leonard Zintak in performing a site assessment at the Bautsch-Gray Mine Site in Jo Daviess County, Illinois (the Site). Under Technical Direction Document (TDD) No. S05-0001-0909-011, U.S. EPA requested that WESTON START document current site conditions; collect soil and water samples; obtain photographic documentation; and evaluate the potential for imminent and substantial threats to human health, human welfare, and the environment posed by Site-related conditions. From October 6 through 8, 2009, WESTON START conducted a site assessment under the direction of OSC Leonard Zintak.

This site assessment report is organized into the following sections:

- **Introduction** – Provides a brief description of the objective and scope of site assessment activities;
- **Site Background** – Details the Site description and its known history;
- **Site Assessment Activities** – Discusses the methods and procedures used during the site assessment;
- **Analytical Results** – Discusses the analytical results for samples collected during the site assessment;
- **Threats to Human Health and the Environment** – Identifies Site-related conditions that may warrant a removal action under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP); and
- **Conclusions and Recommendations** – Summarizes the site assessment findings and recommendations for further Site activities as needed.

2. SITE BACKGROUND

This section discuses the site description and history.

2.1 SITE DESCRIPTION

The Site is located on South Blackjack Road between 747 and 779 South Blackjack Road near

Galena in Jo Daviess County, Illinois (Figure 1). The Site is located approximately 4 miles south of downtown Galena, Illinois, and includes a former lead and zinc mine property that occupies approximately 55 acres, a residential property that occupies approximately 5 acres, and a horseshoe-shaped area containing mine tailings located across the road from the mine that occupies approximately 17 acres (Figure 2). The Site is located in a rural agricultural and residential area. The Mississippi River is located approximately 2 miles west of the Site. The meridian coordinates of the approximate center of the mine tailings pile at the Site are latitude 42° 21' 26.72" North and longitude 90° 23' 54.85" West.

2.2 SITE HISTORY

The Bautsch-Gray Mine was an operational lead and zinc mine from the 1850s until operations ceased in 1975. Since then, the tailings from the mine property have continued to erode and migrate toward residential properties, wetlands, and fisheries. In 2000 and 2001, Illinois Environmental Protection Agency's (IEPA) conducted Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site assessment activities. These activities confirmed that the waste piles at the mine property contained elevated levels of lead, arsenic, and other heavy metals. Additional investigations revealed that nearby creeks and drainage ditches had been impacted by material that had migrated from a large mine tailings pile on the mine property. In addition, one residential groundwater well (746 S. Blackjack Road) was determined to have been impacted by the mine tailings. This resident was notified by the Illinois Department of Pubic Health of these findings and is currently using bottled water.

In addition, IEPA's records indicate that Eagle Picher (previous owner/operator) was issued a permit (No. 1971-EA-1226) on December 21, 1971, for mine pump-out treatment works. This permit indicates a settling lagoon with a capacity of 760,000 cubic feet. An Eagle Picher diagram of the Bautsch-Gray mine indicated that the settling lagoon was located on the east side of Blackjack Road. The current horseshoe shaped area containing mine tailings that is west of Blackjack Road appears to be just across this road from the area that contained the settling lagoon. An NPDES permit (No. 0003086) was issued to Eagle Picher on June 6, 1975, and terminated by IEPA in August 1989.

During a large August 2009 rain event, mine tailings were flushed from the main waste pile at the mine property across Blackjack Road and onto a residential property at 746 S. Blackjack Road. According to the Jo Daviess Highway Department, apparently this has been a frequent problem during the rainy seasons over the last several years. On August 24, 2009, the IEPA conducted x-ray fluorescence (XRF) field screening at approximately 36 locations, including soil at the residential property, mine property tailings piles, and soil in nearby ditches. The XRF results indicated lead levels as high as 2,160 parts per million (ppm) in mine tailings and as high as 1,282 ppm in soil at the residential property. In addition, two soil samples were collected for toxicity characteristic leaching procedure (TCLP) metals analyses. Both samples indicated lead levels exceeding 5 milligrams per liter (mg/L), the toxicity characteristic for lead according to Title 40 of the *Code of Federal Regulations* (CFR), Part 261.24. In addition, vehicles that travel on Blackjack Road create and disperse dust that originates from mine tailing residues.

The IEPA submitted a referral letter dated September 8, 2009, to U.S. EPA requesting assistance at the Site.

3. SITE ASSESSMENT ACTIVITIES

From October 6 through 8, 2009, the following parties met at the Site to conduct the site assessment: U.S. EPA OSC Leonard Zintak, U.S. EPA Field Environmental Decision Support (FIELDS) members John Bing-Canar and Chuck Roth, IEPA Community Relations Coordinator Michelle Tebrugge, IEPA Bureau of Land representative Bruce Everetts, and WESTON START members Jon Colomb and Jeff Bryniarski.

The project objectives for this site assessment included the following:

- Assess and evaluate the magnitude and extent of contamination in soil in areas where mine tailings may have been dispersed;
- Provide the IEPA or other public health agencies with data to be used in determining the magnitude of any health threat to residents; and
- Determine whether the Site poses an imminent and substantial threat to human health, human welfare, and the environment.

The site reconnaissance, site observations, and sampling activities are discussed below.

3.1 SITE RECONNAISSANCE

U.S. EPA FIELDS conducted the site reconnaissance on October 5, 2009. Based on visual observations and the aid of the property owner at 746 S. Blackjack Road, biased sampling locations were identified. The unbiased sampling locations were determined using the mine footprint and grids with 50- to 200-foot spacing. In order to document Site conditions, WESTON START conducted written and photographic documentation beginning on October 6, 2009 (see Appendix A).

The property owner at 746 S. Blackjack Road provided photographs of the extent and approximate locations of mine tailings that washed onto the road and property after the August 2009 rain event discussed in Subsection 2.2. In addition, the residential property lawn showed signs of distress in areas where the mine tailings had migrated.

3.2 SITE OBSERVATIONS

WESTON START observations during the site reconnaissance are summarized below. Appendix A provides photographic documentation of Site observations.

- The former mine area on the east side of S. Blackjack Road consists of approximately 55 acres and remains abandoned, with very little vegetative growth amongst the mine tailings. The tailings are graded into a large berm that steeply slopes along S. Blackjack Road. An access road leading into the former mine property was secured with a metal gate, and some perimeter fencing remained in place. A large drainage culvert running under Blackjack Road directs water and waste onto a marshland located on a residential property located across Blackjack Road.
- Smallpox Creek is located approximately 500 meters north and west of the Site. The creek bends south where it receives flow from the marshland located southwest of the Site.
- The ground surface generally slopes downward from the Site southwest toward Smallpox Creek. According to the previous investigation by IEPA, it is believed that groundwater flow is in the same direction (that is, from the Site southwest to the marshland and into Smallpox Creek).

- Residential properties are located directly across S. Blackjack Road to the west of the Site. Migration of mine tailings to the west and southwest directly impacts these properties.
- The residence at 746 S. Blackjack Road is located downgradient from the mine property and road elevation. IEPA provided photographs of the extent and approximate locations of mine tailings that washed onto the road and property after the August 2009 rain event. In addition, the property lawn and vegetation showed signs of distress in areas where the mine tailings had migrated.
- The residence at 798 S. Blackjack Road is located at street elevation, with low marshland surrounding the lawn area on three sides. In what appeared to be former marshland, mine tailings had migrated in a southwestern direction toward Smallpox Creek through a drainage culvert, wind dispersal, and overland drainage. The southwest end of the horseshoe-shaped area of mine tailings (Figure 2) is approximately 16 feet deep; the eastern end is approximately 4 feet deep. This waste migration is believed to have been ongoing since mining activities began. The volume and depth of the waste in this area supports this theory. Again, very little vegetative growth was observed on the tailings in this area. A makeshift dam of woodland debris and trash separated the tailings from vegetated marshland further south. WESTON START observed that the dam has been damaged, possibly by the August 2009 rain event.

3.3 SAMPLING ACTIVITIES

Sampling activities during the site assessment included soil, residential well water, and surface water sampling as discussed below.

Soil Sampling

U.S. EPA FIELDS determined XRF field screening sampling locations using grids with 50- to 200-foot spacing as indicated in the site-specific field sampling plan. In addition, some XRF sampling locations were determined in the field. U.S. EPA FIELDS recorded all sampling locations using a global positioning system (GPS) unit. A total of 150 samples were collected and field screened using the XRF instrument. Figures 3 shows the XRF sampling locations. Section 4 discusses the XRF results. Samples S001 through S036 and S140 through S159 were collected throughout the 55-acre former mine property. Samples S037 through S059, S160 through S183, and S500 were collected throughout the approximately 5-acre adjacent residential property west of the mine property. Samples S101 through S139 and S184 through S190 were

collected in and around the 17-acre runoff ravine to the southwest where the horseshoe-shaped area containing mine tailings is present.

U.S. EPA FIELDS conducted the XRF field screening using an Innov-X (Alpha Model 4000S) to identify soil with high metals concentrations. Field screening was conducted on surface soil intervals of 0 to 6 inches below ground surface (bgs). U.S. EPA FIELDS donned fresh sampling gloves at each sampling location. Soil samples were collected using a decontaminated stainless-steel trowel or bucket auger. For each sample, the soil was homogenized and placed in a Ziploc bag. The Ziploc bag was labeled with the sample number, date, and time of collection. XRF field screening was conducted through the Ziploc bag, and a 1-minute analysis time was used for each sampling interval.

U.S. EPA and WESTON START selected 32 of the XRF soil samples for laboratory analysis in a biased fashion based on the XRF field screening results. Soil samples were selected for analysis to represent a range of metal concentrations, verify the XRF field screening results, and develop a correlation of the XRF results to the laboratory analytical results. The sample containers were filled directly from the Ziploc bag containing homogenized soil and labeled. Field duplicate samples were collected at a rate of 1 in every 10 investigative samples. All samples were submitted for analysis for total Resource Conservation and Recovery Act (RCRA) metals plus copper, nickel, zinc, and pH. TCLP metals were analyzed for selected samples pending the results of the total metals analyses. WESTON START packaged and shipped all samples to STAT Analysis Corporation of Chicago, Illinois, under chain of custody.

Residential Well Water Sampling

Residential well sampling was conducted at 746 and 820 S. Blackjack Road. Figure 4 shows the two residential well sampling locations. Prior to sampling each well, U.S. EPA secured property owner approval and the home water treatment systems were disengaged. WESTON START purged the wells for 15 minutes prior to sampling. During the purging period, WESTON START monitored water parameters using a YSI water quality meter and documented parameters on residential well sampling forms. After well field readings had stabilized (at ± 0.1 standard unit for pH, ± 3 percent for conductivity, and ± 0.1 °Celsius for temperature),

WESTON START filled designated containers with the residential well water.

Residential well water samples were submitted for analyses for volatile organic compounds (VOC), semivolatile organic compounds (SVOC), metals, and pH. WESTON START packaged and shipped all samples to TestAmerica Laboratory of University Park, Illinois, under chain of custody.

Surface Water Sampling

Surface water samples were collected from two areas impacted by former mining activities. Figure 4 shows the two surface water sampling locations. WESTON START used a reach pole at each location to sample the water and fill the designated sample containers. The first surface water sample was collected from a shaded shallow pool located at the center of the mine property. The second surface water sample was collected from the marshland approximately 500 meters from the Site. XRF field soil screening conducted by U.S. EPA FIELDS showed elevated lead levels throughout the marshland area.

Surface water samples were submitted for analyses for VOCs, SVOCs, metals, and pH. WESTON START packaged and shipped all samples to TestAmerica Laboratory of University Park, Illinois, under chain of custody.

4. ANALYTICAL RESULTS

This section discusses the soil (Section 4.1), residential well water (Section 4.2), and surface water (Section 4.3) sample analytical results. Laboratory data and associated data validation report are provided in Appendix B.

4.1 SOIL SAMPLE ANALYTICAL RESULTS

Approximately 150 soil samples were field screened for metals with an XRF instrument, and 36 of these samples (includes four field duplicates) were analyzed by a laboratory for RCRA metals plus copper, nickel, zinc, and pH. Five of these samples were further analyzed by the laboratory for TCLP metals.

For the lead results, U.S. EPA FIELDS used simple linear regression and regression diagnostics to find the "best fitting" linear relationship between XRF measurements of residential soil metals and their corresponding laboratory measurements. Appendix C contains a document prepared by U.S. EPA FIELDS that provides details of this regression analysis. Based on the results of the simple linear regression, the XRF lead results were adjusted. Figure 3 shows the lead results for the soil samples collected. Table 1-A presents the XRF metal results, including the adjusted lead

results. Table 1-B presents the laboratory data for soil samples. Figure 5 shows the laboratory lead results.

Soil analytical results were compared to the following screening levels:

- Removal action level for lead of 1,200 ppm as stated in the U.S. EPA "Superfund Lead-Contaminated Residential Sites Handbook";
- Cleanup objective level for lead of 400 ppm as stated in the U.S. EPA "Superfund Lead-Contaminated Residential Sites Handbook";
- Cleanup objective level for arsenic of 25 ppm as recommended by Agency for Toxic Substances and Disease Registry (ATSDR) for residential soil (ATSDR action level range from 25 to 100 ppm for arsenic; 100 ppm for removals and 25 ppm for remedial cleanups);
- U.S. EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites (RSL) (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm) for metals other than arsenic; and
- TCLP screening levels in 40 CFR 261.24 (applies to TCLP metals results only).

A discussion of the XRF and laboratory soil data is presented below by area of concern.

Residential Area: The residential area of concern occupies approximately 5 acres in and around the property at 746 S. Blackjack Road. A total of 42 XRF sample results and 18 laboratory results (including 2 field duplicates) are associated with this area. Some of these samples consisted of mine tailings (see Tables 1-A and 1-B). Below is a summary of the metals that exceeded screening levels.

- Lead was detected in all samples collected in and around the 5-acre residential area. Laboratory lead results ranged from 23 to 1,300 ppm, and XRF lead results ranged from 27 to 2,178 ppm. Four of the XRF results and two of the laboratory results exceeded the U.S. EPA removal action level of 1,200 ppm lead. Eighteen XRF lead results and nine laboratory lead results (including one field duplicate result) exceeded 400 ppm, both the U.S. EPA cleanup objective for lead and the U.S. EPA RSL for lead in residential soils.
- No sample results exceeded the TCLP screening levels for metals in this area.
- Six XRF results and four laboratory results exceeded 25 ppm arsenic, the ATSDR recommended cleanup objective for arsenic in residential soils.

- One laboratory result exceeded 23,000 ppm zinc, the U.S. EPA RSL for zinc in residential soils.

Former Mine Property: The former mine property includes the area around the 55-acre former mine. A total of 56 XRF sample results and 8 laboratory results are associated with this area. Approximately half of these samples consisted of mine tailings and the other half of soil (see Tables 1-A and 1-B). Below is a summary of the metals that exceeded screening levels.

- Lead was detected in all samples collected around the 55-acre former mine area. The XRF lead results ranged from 87 to 9,577 ppm, and the laboratory lead results ranged from 120 to 7,200 ppm. Twenty-four of the XRF results and four of the laboratory results exceeded the U.S. EPA removal action level of 1,200 ppm lead. Forty-one XRF lead results and five laboratory lead results exceeded 400 ppm, both the U.S. EPA cleanup objective for lead and the U.S. EPA RSL for lead in residential soils.
- Three samples (two tailings and one soil sample) exceeded the TCLP screening level for lead of 5 mg/L.
- Twenty-nine XRF results and three laboratory results exceeded 25 ppm arsenic, the ATSDR recommended cleanup objective for arsenic in residential soils.
- One XRF result and one laboratory result (both from the same sampling location) exceeded 23,000 ppm zinc, the U.S. EPA RSL for zinc in residential soils.

Runoff Ravine (includes horseshoe-shaped area containing mine tailings south of residence): The runoff ravine area is south of the residential area that includes the horseshoe-shaped mine tailings area and the ravine south of this area, which is an apparent runoff area for mine tailings from the mine across Blackjack Road. This area is estimated to be approximately 17 acres in size. A total of 45 XRF sample results and 7 laboratory results (including 1 field duplicate) are associated with this area. Approximately half of these samples consisted of mine tailings and the other half of soil (see Tables 1-A and 1-B). Below is a summary of the metals that exceeded screening levels.

- Lead was detected in all samples collected in and around the southwest 17-acre runoff ravine area. XRF lead results ranged from 61 to 3,915 ppm, and laboratory lead results ranged from 240 to 4,000 ppm. Twenty-two of the XRF results and three of the laboratory results exceeded the U.S. EPA removal action level of 1,200 ppm lead. Twenty-eight XRF results and six laboratory results (including one field duplicate) exceeded 400 ppm lead, both the U.S. EPA cleanup objective for lead and the U.S. EPA RSL for lead in residential soils.

- One XRF result and five laboratory results (including one field duplicate) exceeded 25 ppm arsenic, the ATSDR recommended cleanup objective for arsenic in residential soils.
- No sample results exceeded the TCLP screening levels for metals in this area.

Along Blackjack Road: Some samples were collected from the east and west sides of Blackjack Road north of the areas discussed above in order to determine how far the metals contamination had migrated to the north. A total of seven XRF sample results and three laboratory results (including one field duplicate) are associated with this area. A few of these samples consisted of mine tailings (see Tables 1-A and 1-B). Below is a summary of the metals that exceeded screening levels.

- Lead was detected in all samples collected from this area. XRF lead results ranged from 93 to 1,147 ppm, and laboratory lead results ranged from 790 to 1,100 ppm. None of the sample results exceeded the U.S. EPA removal action level of 1,200 ppm lead. Four XRF results and three laboratory results (including one field duplicate) exceeded 400 ppm lead, both the U.S. EPA cleanup objective for lead and the U.S. EPA RSL for lead in residential soils.
- Three laboratory results (including one field duplicate) exceeded 25 ppm arsenic, the ATSDR recommended cleanup objective for arsenic in residential soils.

4.2 RESIDENTIAL WELL WATER SAMPLE ANALYTICAL RESULTS

Two residential well samples plus one field duplicate were collected and analyzed for VOCs, SVOCs, metals, and pH. Tables 2-A, 2-B, and 2-C summarize the analytical results for these samples. The residential well water sample results were compared to the U.S. EPA RSLs for tap water and the U.S. EPA maximum contaminant levels (MCL) for drinking water. Below is a summary of the analytical results that exceeded screening levels.

- **Metals.** Several metals were detected in the residential well samples. Only lead exceeded its MCL of 0.015 mg/L in sample BG-RW01-100609, which contained 0.027 mg/L lead.
- **VOCs.** VOCs were not detected in the residential well samples.
- **SVOCs.** SVOCs were not detected in the residential well samples.

4.3 SURFACE WATER SAMPLE ANALYTICAL RESULTS

Two surface water samples were collected and analyzed for VOCs, SVOCs, metals, and pH. Tables 3-A, 3-B, and 3-C summarize the analytical results for these samples. The surface water sample results were compared to the U.S. EPA RSLs for tap water and the U.S. EPA MCLs for drinking water. Below is a summary of the analytical results that exceeded screening levels.

- **Metals.** Several metals exceeded the screening levels in the surface water samples. The metals that exceeded screening levels in sample BG-SW01-100709 (collected from the mine property) include arsenic, beryllium, cadmium, cobalt, lead, manganese, thallium, and vanadium. The metals that exceeded screening levels in sample BG-SW02-100709 (collected from the ravine area south of the residential area) include lead and arsenic. The lead levels were 63 and 0.020 mg/L in samples BG-SW01-100709 and BG-SW02-100709, respectively. Table 3-A presents a complete summary of the detected metals results.
- **VOCs.** Acetone was the only VOC detected. Acetone was detected in sample BG-SW01-100709 at 0.0071 mg/L, which is below the screening levels.
- **SVOCs.** SVOCs were not detected in the surface water samples.

5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Factors to be considered in determining the appropriateness of a potential removal action at a Site are delineated in the NCP at 40 CFR 300.415(b)(2). A summary of the factors applicable to this Site is presented below.

- **Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances, pollutants, or contaminants**

  The Bautsch-Gray Mine is located approximately 50 feet east of a residential house and approximately 700 feet upgradient of Smallpox Creek. The creek flows from north to south, where it eventually reaches the Mississippi River 1.5 miles west of the Site. Lead results exceeded the removal action level, cleanup objective, and RSL in several samples from the residential area, former mine property, ravine area south of the residence, and along Blackjack Road. TCLP lead concentrations were detected in three samples above the RCRA limits, indicating the presence of characteristically hazardous waste. In addition, the residential well across the street from the former mine property had a lead concentration exceeding its U.S. EPA MCL. These results indicate that mine tailings are migrating to the residential property and ravine area south of the residential property at levels exceeding removal actions levels for lead in

soil.

Access to the mine property is limited by a steel swing gate at the northwest access road to the mine. Access to the mine property by foot is not limited in any significant way, and there is evidence in the mine vicinity of hiking trails that cross the mine property. According to the Jo Daviess Highway Department, people in the area are known to remove mine tailing materials from the Site for personal use without permission from the Site owners.

Deer were observed near the Site on a number of occasions, and deer tracks were observed near standing water ponds on the Site. Although there was not much physical evidence of other animals living on or near the Site, according to the Illinois Department of Natural Resources, many endangered, threatened, or rare species specific to Jo Daviess County are located in the area. The species include fish, amphibians, reptiles, birds, mammals, vascular plants, forest, and wetland species.

- **High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate**

  Lead results exceeding U.S. EPA removal action levels and cleanup objectives were detected in surface soil samples from the following areas: around the mine property, in and around the southwest runoff ravine, and in the adjacent residential area.

  The mine Site is located approximately 50 feet east of a residential house and approximately 1,000 feet south and east of Smallpox Creek. Evidence of mine tailings running off site during past rain events was observed throughout the adjacent residence and in the runoff ravine southwest of the Site. Lead results exceeding the removal action level were found in surface soil samples collected from nearly 1,500 feet southwest of the Site in the ravine. The ravine and residential property both provide a clear downgradient path to Smallpox Creek, which eventually reaches the Mississippi River.

- **Weather conditions that may cause hazardous substances, pollutants, or contaminants to migrate or be released**

  Evidence of mine tailings running off site during past rain events was observed throughout the adjacent residence and in the runoff ravine southwest of the Site. It is presumed that fine-grained sediment has been running off the Site and depositing in the runoff ravine during rain events for more than 100 years. It is estimated but not confirmed that fine-grained sediment deposits may be as deep as 5 feet in some areas.

  In addition, heavy winds can be responsible for the migration of mine tailings into the air and onto nearby properties.

6. CONCLUSIONS AND RECOMMENDATIONS

This section discusses the conclusions and recommendations based on the site assessment

findings.

6.1 CONCLUSIONS

During the site assessment, U.S. EPA FIELDS conducted XRF field screening of 150 surface soil samples and WESTON START collected 32 of these surface soil samples (plus 4 field duplicates) for laboratory analysis. In addition, two residential well water samples (plus one field duplicate) and two surface water samples were collected. These samples were collected to determine if the Site poses imminent and substantial threats to human health, human welfare, and the environment from the presence of potentially hazardous materials at the Site. The main constituent of concern, lead, yielded results exceeding the U.S. EPA removal action level and cleanup objective in samples collected from in and around the adjacent residential area, in and around the southwest runoff ravine area, and around the mine property. In addition, lead was detected in water from the residential well directly across the street from the mine property at concentrations exceeding its MCL. Hazards identified at the Site include the uncontrolled factors summarized below.

- Lead exceeds removal action and screening levels at the residential property.
- There is a potential migration pathway from the mine tailing piles to Smallpox Creek.
- There is a continued risk of tailings being deposited on Blackjack Road and adjacent properties during rain events.

Contaminants and conditions at the Site meet criteria established in the NCP at 40 CFR 300.415(b)(2) for a removal action.

6.2 RECOMMENDATIONS

Based on information gathered during the site assessment, recommendations are summarized below.

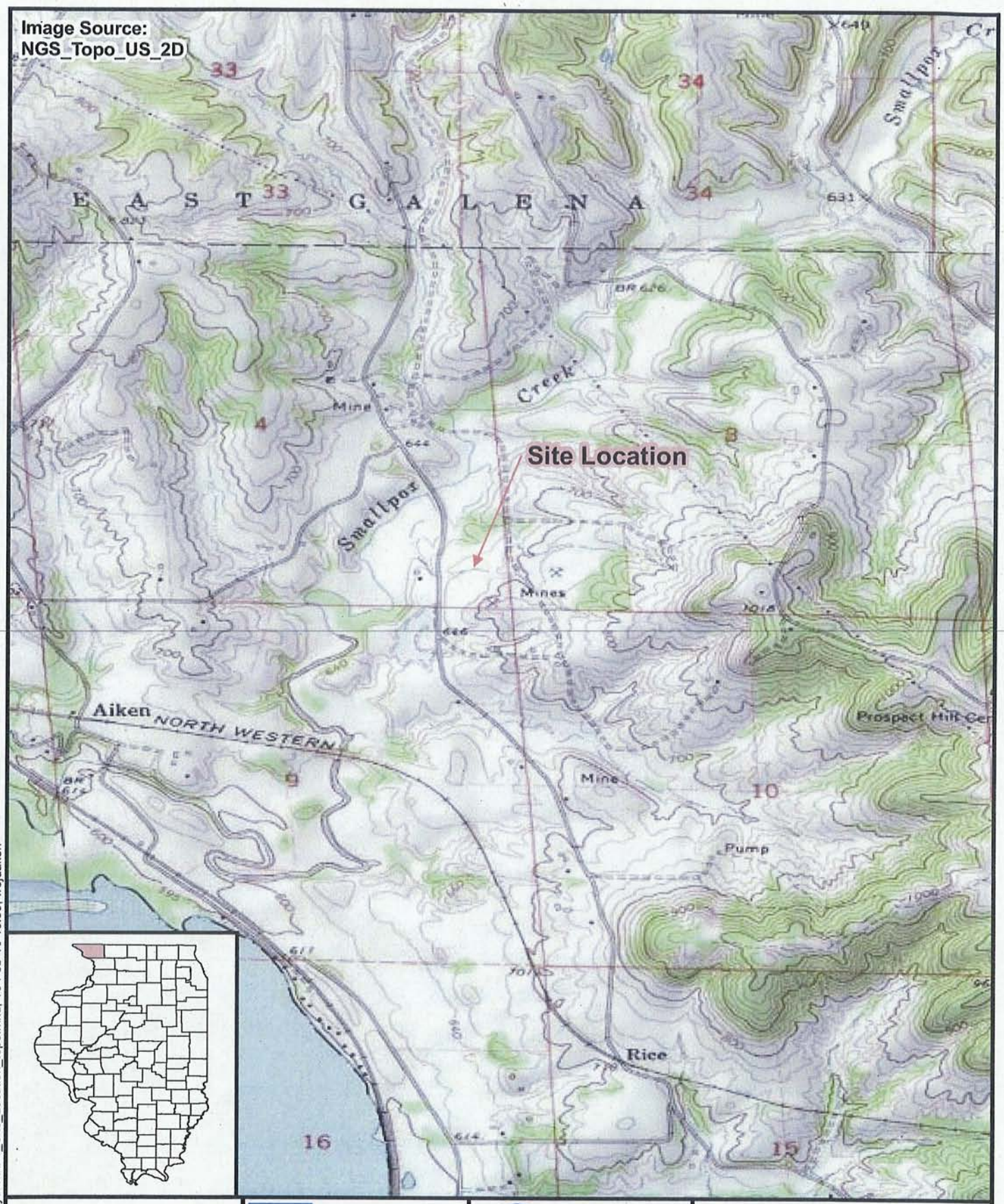
- Surface and subsurface soils and tailings exceeding the cleanup objectives should be excavated and/or stabilized in and around the affected areas, specifically at the adjacent residential property and runoff ravine area (note that excavation of lead contaminated soils will also remove arsenic-contaminated soils above the ATSDR recommended cleanup objective). Excavation should reduce the potential for a

release of contaminated materials that could result in, but not be limited to, any or all of the following:

- Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances, pollutants, or contaminants;
- High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate; and
- Weather conditions that may cause hazardous substances, pollutants, or contaminants to migrate or be released.

- An appropriate water treatment system should be installed at the residence yielding lead samples with results exceeding the lead MCL.
- Engineered control measures should be put in place to keep mine tailings from migrating off the mine property. These measures should include reconfiguration of the mine tailing's containment berm along Blackjack Road to a less severe angle to allow stabilization measures to be implemented effectively and to contain water runoff as well as vegetation of the mine berm.

FIGURES



Legend

USGS Quad: Bellevue

0 2,000 Feet

N

Prepared for:
U.S. EPA REGION V

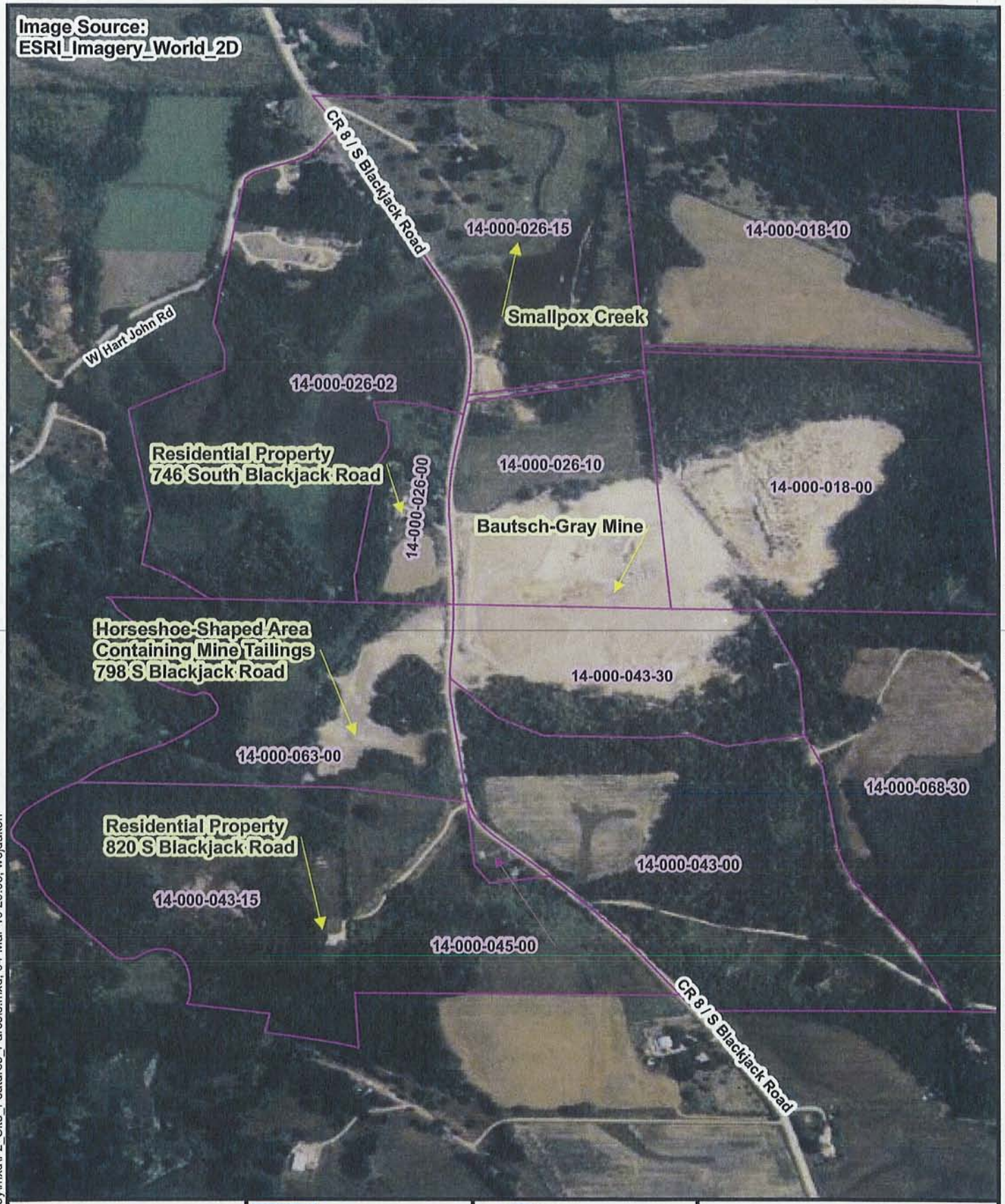
Contract No.: EP-S5-06-04
TDD: S05-0001-0909-011
DCN: 767-2A-AFJA

Prepared By:
WESTON SOLUTIONS, INC

750 E. Bunker Court
Suite 500
Vernon Hills, Illinois 60061

Figure 1
Site Location Map
Bautsch-Gray Mine Site
Jo Daviess County, Illinois

File: D:\Bautsch_Grey\mxd\F1_Site_Location_topo.mxd, 16-Feb-10 15:56, wojdakon



Legend

Parcel Boundaries

0 500 Feet

N

Prepared for:
U.S. EPA REGION V

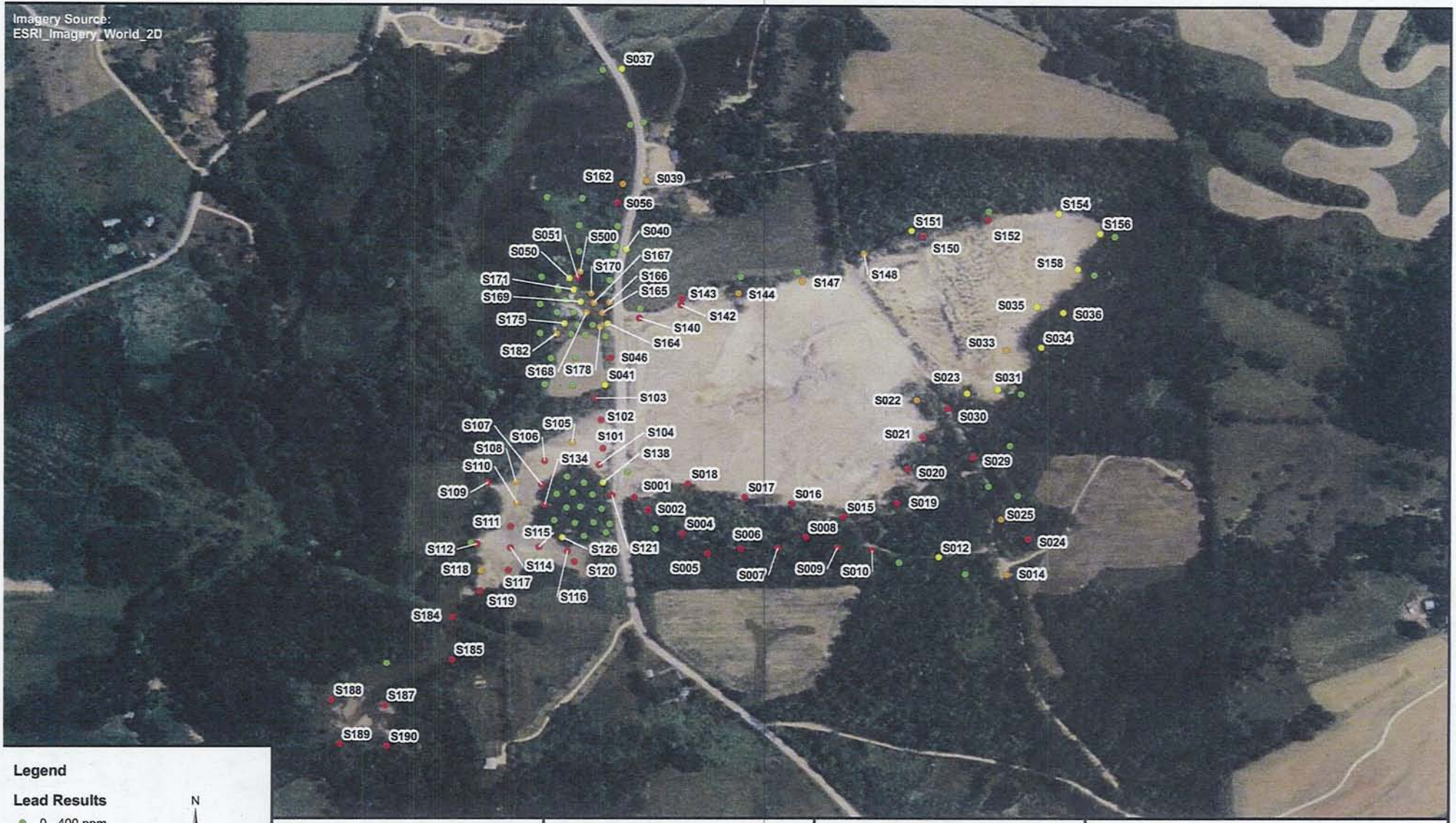
Contract No.: EP-S5-06-04
TDD: S05-0001-0909-011
DCN: 767-2A-AFJA

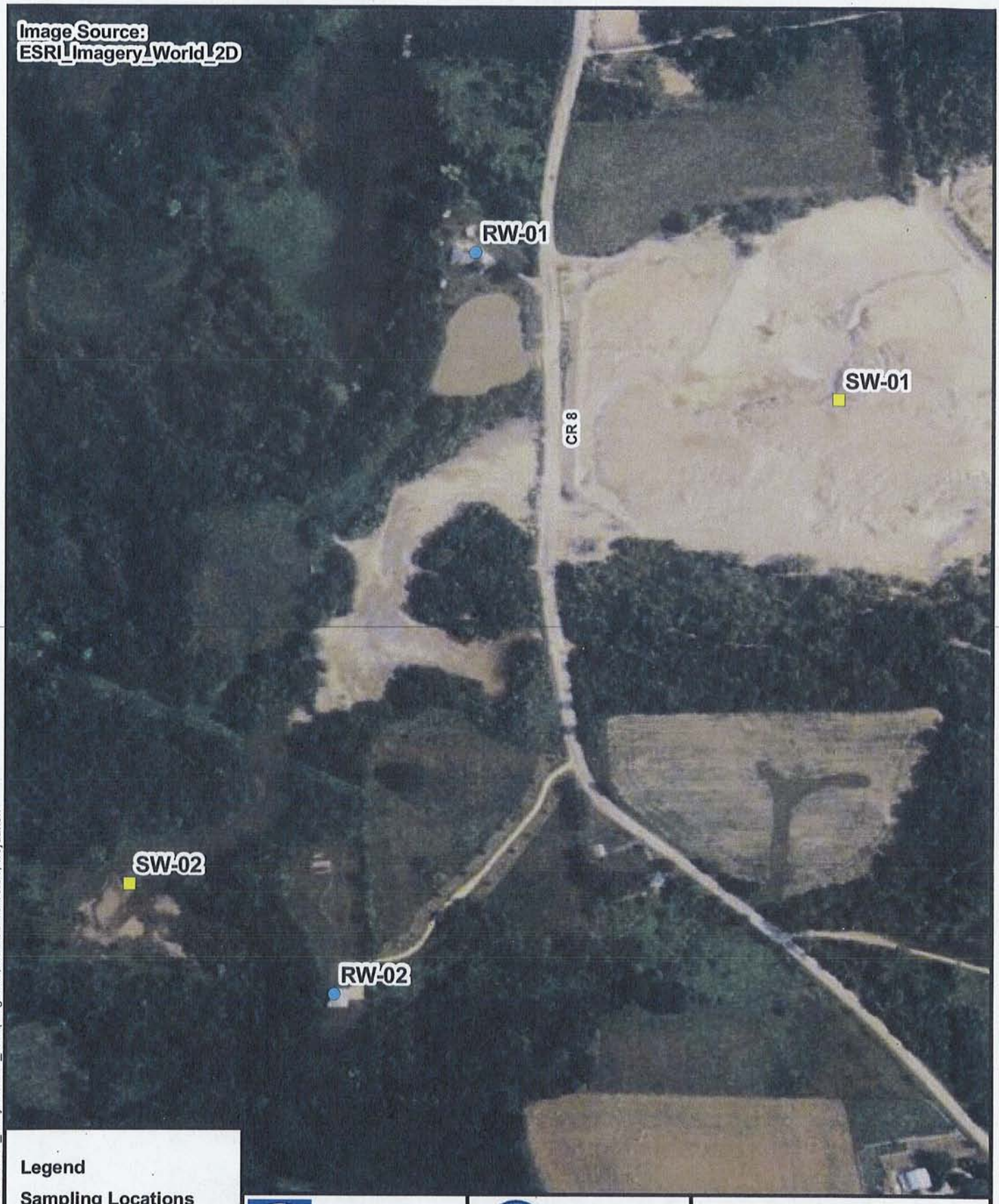
Prepared By:
WESTON SOLUTIONS, INC

750 E. Bunker Court
Suite 500
Vernon Hills, Illinois 60061

Figure 2
Site Features Map
Bautsch-Gray Mine Site
Jo Daviess County, Illinois

File: D:\Bautsch_Grey\mxd\F2_Site_Features_Parcels.mxd, 04-Mar-10 20:03, wojdakon


Imagery Source:
ESRI_Imagery_World_2D
S037
S162
S039
S056
S051
S500
S040
S050
S167
S170
S171
S166
S169
S165
S143
S144
S147
S148
S151
S154
S156
S152
S150
S158
S175
S142
S140
S035
S036
S164
S033
S034
S182
S046
S168
S178
S041
S023
S031
S103
S022
S102
S030
S107
S105
S106
S101
S104
S021
S108
S138
S134
S029
S110
S018
S020
S109
S001
S017
S016
S019
S002
S015
S025
S111
S004
S006
S008
S115
S012
S024
S112
S126
S121
S005
S007
S009
S010
S118
S114
S120
S014
S117
S116
S119
S184
S185
S188
S187
S189
S190
Legend
Lead Results
0 - 400 ppm
400 - 800 ppm
800 - 1,200 ppm
> 1,200 ppm
N
0
450
Feet
NOTES:
Lead results provided by
U.S. EPA FIELDS
Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-0909-011
DCN: 767-2A-AFJA
Prepared By:
WESTON SOLUTIONS, INC
750 E. Bunker Court, Suite 500
Vernon Hills, Illinois 60061
Figure 3
XRF Sampling Locations and Lead Results
Bautsch-Gray Mine Site
Jo Daviess County, Illinois



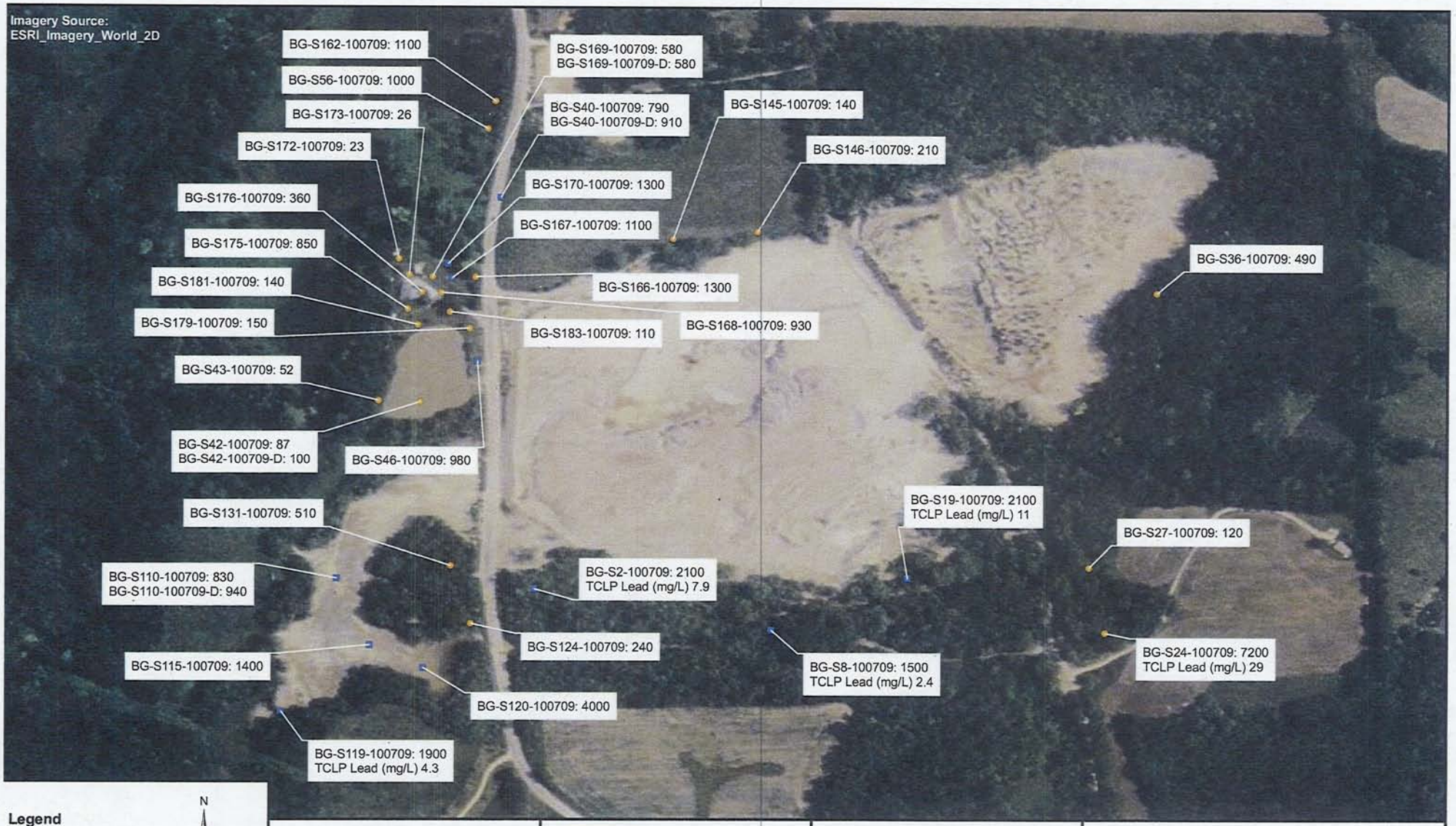
File: D:\Bautsch_Grey\mxd\F4_Sampling.mxd, 16-Feb-10 16:01, wojdakon

Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-06-04
TDD: S05-0001-0909-011
DCN: 767-2A-AFJA

Prepared By:
WESTON SOLUTIONS, INC
750 E. Bunker Court
Suite 500
Vernon Hills, Illinois 60061

Figure 4
Residential Well and
Surface Water Sampling Locations
Bautsch-Gray Mine Site
Jo Daviess County, Illinois



NOTES:

All results are for Total Lead in mg/kg (except were noted)

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-0909-011
DCN: 767-2A-AFJA

Prepared By:
WESTON SOLUTIONS, INC
750 E. Bunker Court, Suite 500
Vernon Hills, Illinois 60061

Figure 5
Laboratory Lead Results
Bautsch-Gray Mine Site
Jo Daviess County, Illinois

TABLES

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S001-100509	BG-S002-100509	BG-S003-100509	BG-S004-100509	BG-S005-100509	BG-S006-100509	BG-S007-100509
		Date Collected :	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
		Location:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property
		Sample Type:	Tailings	Tailings	Soil	Tailings	Soil	mixture	Tailings
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	50	101	ND	49	ND	35	44
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	ND	ND	ND	ND	ND	ND
Lead[1]	400	400	1,288	2,189	235	1,276	2,403	1,377	1,580
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	6,021	3,475	536	2,205	2,861	3,201	8,285

		Sample ID :	BG-S008-100509	BG-S009-100509	BG-S010-100509	BG-S011-100509	BG-S012-100509	BG-S013-100509	BG-S014-100509
		Date Collected :	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
		Location:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property
		Sample Type:	Tailings	Tailings	Tailings	Soil	Mixture	Soil	Tailings
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	101	58	ND	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	ND	ND	ND	ND	ND	ND
Lead[1]	400	400	1,725	1,458	1,389	143	656	87	823
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	3,510	4,252	3,382	297	1,634	147	1,140

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S015-100509	BG-S016-100509	BG-S017-100509	BG-S018-100509	BG-S019-100509	BG-S020-100509	BG-S021-100509
		Date Collected :	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
		Location:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property
		Sample Type:	Tailings	Tailings	Tailings	Tailings	Tailings	Tailings	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	85	87	ND	ND	62	760	101
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	220	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	ND	ND	ND	ND	ND	ND
Lead[1]	400	400	1,562	2,111	1,324	1,620	2,392	9,577	3600
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	526	ND
Zinc		23,000	4,578	2,403	4,098	3,808	7,563	219,165	7,373

		Sample ID :	BG-S022-100509	BG-S023-100509	BG-S024-100609	BG-S025-100609	BG-S026-100609	BG-S027-100609	BG-S028-100609
		Date Collected :	10/05/2009	10/05/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009
		Location:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property
		Sample Type:	Tailings	Soil	Soil	Soil	Soil	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	39	186	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	ND	279	ND
Cadmium		70	ND	ND	90	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	ND	83	ND	ND	ND	ND
Lead[1]	400	400	1,114	461	7,383	805	204	108	221
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	91	ND	ND	ND	ND
Zinc		23,000	7,253	3,475	35,438	3,338	398	195	433

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S029-100609	BG-S030-100609	BG-S031-100609	BG-S032-100609	BG-S033-100609	BG-S034-100609	BG-S035-100609
		Date Collected :	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009
		Location:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property
		Sample Type:	Tailings	Soil	Tailings	Soil	Tailings	Soil	Tailings
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	57	28	ND	59	31	54
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	ND	ND	ND	ND	ND	ND
Lead[1]	400	400	1,345	1,361	657	188	874	740	615
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	3,667	3,682	3,288	837	9,406	3,278	4,552

		Sample ID :	BG-S036-100609	BG-S037-100609	BG-S038-100609	BG-S039-100609	BG-S040-100609	BG-S041-100709	BG-S042-100709
		Date Collected :	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/07/2009	10/07/2009
		Location:	Mine property	BlackjackRoad	BlackjackRoad	BlackjackRoad	BlackjackRoad	Residential area	Residential area
		Sample Type:	Soil	Soil	Soil	Tailings	Tailings	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	50	ND	ND	ND	ND	44	ND
Barium		15,000	ND	ND	ND	ND	ND	1149	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	ND	ND	ND	ND	ND	23
Lead[1]	400	400	620	480	263	840	765	423	96
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	3,397	1,235	1,291	2,015	1,682	1,205	293

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S043-100709	BG-S044-100709	BG-S045-100709	BG-S046-100709	BG-S047-100709	BG-S048-100709	BG-S049-100709
		Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
		Location:	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area
		Sample Type:	Soil	Soil	Soil	Tailings	Soil	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	ND	ND	ND	ND	ND	ND
Barium		15,000	ND	ND	1474	ND	1024	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	ND	ND	ND	27	46	ND
Lead[1]	400	400	43	58	85	1,258	58	217	77
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	154	220	481	7,282	201	1,164	563

		Sample ID :	BG-S050-100709	BG-S051-100709	BG-S052-100709	BG-S053-100709	BG-S054-100709	BG-S055-100709	BG-S056-100709
		Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
		Location:	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area
		Sample Type:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	ND	10	12	ND	ND	ND
Barium		15,000	ND	1077	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	118	ND	ND	ND	ND	ND
Copper		3,100	44	50	28	ND	23	31	ND
Lead[1]	400	400	513	1,340	69	140	90	75	1,345
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	2,244	2,278	186	254	189	264	3,278

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S057-100709	BG-S058-100709	BG-S059-100709	BG-S101-100509	BG-S102-100509	BG-S103-100509	BG-S104-100509
		Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
		Location:	Residential area	Residential area	Residential area	Horseshoe area	Horseshoe area	Residential area	Horseshoe area
		Sample Type:	Soil	Soil	Soil	Tailings	Tailings	Soil	Tailings
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	ND	ND	ND	ND	ND	ND
Barium		15,000	1246	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	35	ND	43	38	65	ND
Lead[1]	400	400	232	357	282	1,297	1,581	2,178	1,310
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	924	1,659	1,163	4,846	3,222	5,245	4,678

		Sample ID :	BG-S105-100509	BG-S106-100509	BG-S107-100509	BG-S108-100509	BG-S109-100509	BG-S110-100509	BG-S111-100509
		Date Collected :	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
		Location:	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area
		Sample Type:	Tailings	Tailings	Tailings	Tailings	Soil	Tailings	Tailings
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	ND	ND	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	31	ND	36	147	ND	47
Lead[1]	400	400	1,186	1,751	1,459	1,144	2,960	1,080	1,968
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	3,275	3,370	3,392	3,126	8,329	3,034	4,482

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S112-100509	BG-S113-100509	BG-S114-100509	BG-S115-100509	BG-S116-100509	BG-S117-100509	BG-S118-100509
		Date Collected :	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
		Location:	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area
		Sample Type:	Mixture	Soil	Tailings	Tailings	Tailings	Tailings	Tailings
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	10	ND	ND	ND	ND	ND
Barium		15,000	ND	767	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	174	25	68	67	281	56	40
Lead[1]	400	400	3,063	61	2,299	1,499	2,305	1,816	1,181
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	9,844	198	5,405	4,597	14,090	5,137	4,008

		Sample ID :	BG-S119-100509	BG-S120-100509	BG-S121-100509	BG-S122-100509	BG-S123-100509	BG-S124-100509	BG-S125-100509
		Date Collected :	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
		Location:	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area
		Sample Type:	Tailings	Tailings	Soil	Soil	Soil	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	ND	ND	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	926	ND	ND	ND
Cadmium		70	ND	ND	ND	45	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	125	95	33	24	ND	ND	24
Lead[1]	400	400	2,007	2,673	2,511	230	200	208	77
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	7,309	7,852	3,990	520	558	491	149

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

	Sample ID :	BG-S126-100509	BG-S127-100509	BG-S128-100509	BG-S129-100509	BG-S130-100509	BG-S131-100509	BG-S132-100509
	Date Collected :	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
	Location:	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area
	Sample Type:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)						
Arsenic	25	---	ND	ND	ND	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	993	ND	879
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	103	ND	ND
Copper		3,100	31	29	ND	ND	ND	ND	ND
Lead[1]	400	400	446	103	90	122	133	358	120
Mercury		4.3	ND	ND	ND	ND	9	ND	10
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	871	212	213	279	278	710	226

	Sample ID :	BG-S133-100509	BG-S134-100509	BG-S135-100509	BG-S136-100509	BG-S137-100509	BG-S138-100509	BG-S139-100509
	Date Collected :	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009	10/05/2009
	Location:	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area
	Sample Type:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)						
Arsenic	25	---	ND	ND	ND	ND	ND	35	ND
Barium		15,000	ND	ND	ND	1,233	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	40	ND	24	ND	26	ND
Lead[1]	400	400	140	3,477	99	169	161	760	293
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	257	6,970	205	292	291	1,614	ND

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S140-100609	BG-S141-100609	BG-S142-100609	BG-S143-100609	BG-S144-100609	BG-S145-100609	BG-S146-100609
		Date Collected :	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009
		Location:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property
		Sample Type:	Tailings	Soil	Tailings	Soil	Tailings	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	ND	45	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	ND	803	1,008
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	38	ND	50	61	50	ND	ND
Lead[1]	400	400	1,265	114	1,243	1,519	1,033	145	250
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	3,862	367	4,386	4,800	3,627	344	485

		Sample ID :	BG-S147-100609	BG-S148-100609	BG-S149-100609	BG-S150-100609	BG-S151-100609	BG-S152-100609	BG-S153-100609
		Date Collected :	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009
		Location:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property
		Sample Type:	Tailings	Tailings	Soil	Tailings	Soil	Tailings	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	30	45	ND	67	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	62	ND	74	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	39	73	26	ND	ND	421	35
Lead[1]	400	400	813	997	146	1,715	537	1,778	353
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	3,723	3,791	293	3,343	1,518	16,944	1,750

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S154-100609	BG-S155-100609	BG-S156-100609	BG-S157-100609	BG-S158-100609	BG-S159-100609	BG-S160-100609
		Date Collected :	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009	10/06/2009
		Location:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property	West Side of
		Sample Type:	Tailings	Soil	Tailings	Soil	Tailings	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	46	16	58	34	38	33	ND
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	42	ND	42	41	51	ND	ND
Lead[1]	400	400	685	230	738	394	732	306	93
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	4,932	1,484	3,874	3,202	4,392	2,173	497

		Sample ID :	BG-S161-100609	BG-S162-100609	BG-S163-100609	BG-S164-100709	BG-S165-100709	BG-S166-100709	BG-S167-100709
		Date Collected :	10/06/2009	10/06/2009	10/06/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
		Location:	Blackjack Road	Blackjack Road	Residential area	Residential area	Residential area	Residential area	Residential area
		Sample Type:	Soil	Soil	Soil	Soil	Tailings	Soil	Tailings
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	ND	ND	22	46	37	36	32
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	47	ND	32	38	ND	34
Lead[1]	400	400	217	1,147	340	693	1,011	952	1,013
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	1,171	3,017	1,672	1,839	3,774	1,580	2,560

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

	Sample ID :	BG-S168-100709	BG-S169-100709	BG-S170-100709	BG-S171-100709	BG-S172-100709	BG-S173-100709	BG-S174-100709
	Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
	Location:	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area
	Sample Type:	Soil	Soil	Tailings	Soil	Soil	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)						
Arsenic	25	---	ND	ND	ND	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	27	ND	ND	ND	ND	ND	ND
Lead[1]	400	400	1,005	691	971	682	35	27	188
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	2,204	4,065	2,258	1,720	92	72	847

	Sample ID :	BG-S175-100709	BG-S176-100709	BG-S177-100709	BG-S178-100709	BG-S179-100709	BG-S180-100709	BG-S181-100709
	Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
	Location:	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area
	Sample Type:	Soil	Soil	Soil	Tailings	Soil	Soil	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)						
Arsenic	25	---	ND	ND	ND	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	ND	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	ND	ND	ND	ND	ND	ND	22
Lead[1]	400	400	639	271	272	1,092	209	98	150
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	782	1,396	710	2,803	569	426	443

Table 1-A
XRF Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID :	BG-S182-100709	BG-S183-100709	BG-S184-100709	BG-S185-100709	BG-S186-100709	BG-S187-100709	BG-S188-100709
		Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
		Location:	Residential area	Residential area	Ravine South of	Ravine South of	Ravine South of	Ravine South of	Ravine South of
		Sample Type:	Soil	Soil	Tailings	Tailings	Soil	Tailings	Soil
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)							
Arsenic	25	---	36	ND	ND	ND	ND	ND	ND
Barium		15,000	ND	ND	ND	ND	ND	ND	ND
Cadmium		70	ND	ND	ND	ND	ND	60	ND
Chromium		280	ND	ND	ND	ND	ND	ND	ND
Copper		3,100	103	ND	ND	113	ND	109	54
Lead[1]	400	400	1,059	83	1,447	2,529	180	2,544	1,826
Mercury		4.3	ND	ND	ND	ND	ND	ND	ND
Selenium		390	ND	ND	ND	ND	ND	ND	ND
Silver		390	ND	ND	ND	ND	ND	ND	ND
Zinc		23,000	3,029	229	2,590	8,564	841	9,748	5,416

		Sample ID :	BG-S189-100709	BG-S190-100709	BG-S500-100709
		Date Collected :	10/07/2009	10/07/2009	10/07/2009
		Location:	Horseshoe area	Horseshoe area	Residential area
		Sample Type:	mixture	mixture	Tailings
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)			
Arsenic	25	---	ND	81	ND
Barium		15,000	ND	ND	ND
Cadmium		70	ND	ND	ND
Chromium		280	ND	ND	ND
Copper		3,100	157	123	31
Lead[1]	400	400	3,716	3,915	968
Mercury		4.3	ND	ND	ND
Selenium		390	ND	ND	ND
Silver		390	ND	ND	ND
Zinc		23,000	9,804	8,662	2,514

Notes:

Gray shaded data exceeds one or more screening levels.

Yellow highighed values exceed removal action level of 1,200 ppm for lead as well as cleanup objective of 400 ppm for lead.

ATSDR = Agency for Toxic Substances & Disease Registry
ID = Identification
mg/kg = Milligram per kilogram
ND = Not detected
ppm = Part per million
RSL = Regional Screening Level
U.S. EPA = United States Environmental Protection Agency
XRF = X-ray fluorescence
--- = Not applicable
1 = XRF lead value adjusted based on regression analysis to laboratory lead value

Table 1-B
Analytical Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

			Client Sample ID :	BG-S2-100709	BG-S8-100709	BG-S19-100709	BG-S24-100709	BG-S27-100709	BG-S36-100709
			Area Collected:	Mine property	Mine property	Mine property	Mine property	Mine property	Mine property
			Sample Type:	Tailings	Tailings	Tailings	Soil	Soil	Soil
			Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)	TCLP Screening Level (mg/L)						
Total Metals (mg/kg)									
Arsenic	25	---		20	23	45	56	5.9	64
Barium		15,000		18	20	22	39	120	32
Cadmium		70		14	18	22	120	< 0.7	12
Chromium		280		1.9	4.2	4.2	5.3	13	2.1
Copper		3,100		7.3	14	120	43	13	51
Lead	400	400		2,100	1,500	2,100	7,200	120	490
Mercury		4.3		0.033	< 0.027	0.034	0.09	< 0.032	0.062
Selenium		390		< 1	< 1	< 1.1	< 1.2	< 1.4	< 1.4
Silver		390		< 1	< 1	< 1.1	3.2	< 1.4	< 1.4
Zinc		23,000		5,700	12,000	9,100	68,000	320	4,300
TCLP Metals (mg/L)									
Arsenic			5	< 0.01	< 0.01	< 0.01	< 0.01	NA	NA
Barium			100	0.082	0.18	0.11	0.38	NA	NA
Cadmium			1	0.049	0.022	0.093	0.33	NA	NA
Chromium			5	< 0.01	< 0.01	< 0.01	< 0.01	NA	NA
Copper			---	< 0.1	< 0.1	< 0.1	< 0.1	NA	NA
Lead			5	7.9	2.4	11	29	NA	NA
Mercury			0.2	< 0.00025	< 0.00025	< 0.00025	< 0.00025	NA	NA
Selenium			1	< 0.01	< 0.01	< 0.01	< 0.01	NA	NA
Silver			5	< 0.01	< 0.01	< 0.01	< 0.01	NA	NA
Zinc			---	24	7.1	27	210	NA	NA

Table 1-B
Analytical Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

			Client Sample ID :	BG-S40-100709	BG-S42-100709	BG-S43-100709	BG-S46-100709	BG-S56-100709	BG-S110-100709
			Area Collected:	E. of Blackjack Rd.	Residential area	Residential area	Residential area	Residential area	Horseshoe area
			Sample Type:	Tailings	Soil	Soil	Tailings	Soil	Tailings
			Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)	TCLP Screening Level (mg/L)						
Total Metals (mg/kg)									
Arsenic	25	---		51	10	6.4	43	23	39
Barium		15,000		9.3	470	150	8.5	20	10
Cadmium		70		11	1.7	< 0.78	16	200	11
Chromium		280		1.4	21	19	1.4	3.7	1.3
Copper		3,100		42	21	19	33	12	27
Lead	400	400		790	87	52	980	1,000	830
Mercury		4.3		< 0.029	0.036	0.046	< 0.027	0.041	< 0.026
Selenium		390		< 1.1	< 1.3	< 1.6	< 1	< 1	< 1
Silver		390		< 1.1	< 1.3	< 1.6	< 1	11	< 1
Zinc		23,000		4,100	580	320	5,900	72,000	4,100
TCLP Metals (mg/L)									
Arsenic			5	NA	NA	NA	NA	NA	NA
Barium			100	NA	NA	NA	NA	NA	NA
Cadmium			1	NA	NA	NA	NA	NA	NA
Chromium			5	NA	NA	NA	NA	NA	NA
Copper			---	NA	NA	NA	NA	NA	NA
Lead			5	NA	NA	NA	NA	NA	NA
Mercury			0.2	NA	NA	NA	NA	NA	NA
Selenium			1	NA	NA	NA	NA	NA	NA
Silver			5	NA	NA	NA	NA	NA	NA
Zinc			---	NA	NA	NA	NA	NA	NA

Table 1-B
Analytical Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

				Client Sample ID :	BG-S115-100709	BG-S119-100709	BG-S120-100709	BG-S124-100709	BG-S131-100709	BG-S145-100709
				Area Collected:	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Horseshoe area	Mine property
				Sample Type:	Tailings	Tailings	Tailings	Soil	Soil	Soil
				Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)	TCLP Screening Level (mg/L)							
Total Metals (mg/kg)										
Arsenic	25	---			49	41	63	9.9	14	11
Barium		15,000			12	17	31	190	220	150
Cadmium		70			14	18	28	2.3	4.1	< 0.64
Chromium		280			1.9	3.4	4.7	21	17	19
Copper		3,100			58	100	160	22	31	20
Lead	400	400			1,400	1,900	4,000	240	510	140
Mercury		4.3			0.027	0.041	0.057	0.057	0.048	< 0.032
Selenium		390			< 1	< 0.95	< 1.2	< 1.4	< 1.4	< 1.3
Silver		390			< 1	< 0.95	< 1.2	< 1.4	< 1.4	< 1.3
Zinc		23,000			6,300	7,900	13,000	980	1,700	610
TCLP Metals (mg/L)										
Arsenic			5		NA	< 0.01	NA	NA	NA	NA
Barium			100		NA	< 0.05	NA	NA	NA	NA
Cadmium			1		NA	0.28	NA	NA	NA	NA
Chromium			5		NA	< 0.01	NA	NA	NA	NA
Copper			---		NA	0.26	NA	NA	NA	NA
Lead			5		NA	4.3	NA	NA	NA	NA
Mercury			0.2		NA	< 0.00025	NA	NA	NA	NA
Selenium			1		NA	< 0.01	NA	NA	NA	NA
Silver			5		NA	< 0.01	NA	NA	NA	NA
Zinc			---		NA	120	NA	NA	NA	NA

Table 1-B
Analytical Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

			Client Sample ID :	BG-S146-100709	BG-S162-100709	BG-S166-100709	BG-S167-100709	BG-S168-100709	BG-S169-100709
			Area Collected:	Mine property	W. of Blackjack Rd.	Residential area	Residential area	Residential area	Residential area
			Sample Type:	Soil	Soil	Soil	Tailings	Soil	Soil
			Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)	TCLP Screening Level (mg/L)						
Total Metals (mg/kg)									
Arsenic	25	---		12	44	24	66	18	25
Barium		15,000		120	14	160	11	120	120
Cadmium		70		2.1	12	5.7	14	9.1	8.4
Chromium		280		18	2.1	6.5	1.9	12	11
Copper		3,100		23	51	26	58	31	25
Lead	400	400		210	1,100	1,300	1,100	930	580
Mercury		4.3		< 0.031	< 0.031	0.18	0.027	0.051	0.067
Selenium		390		< 1.2	< 1.2	< 1.3	< 0.93	< 1.2	< 1.2
Silver		390		< 1.2	< 1.2	< 1.3	< 0.93	< 1.2	< 1.2
Zinc		23,000		1,000	4,300	3,000	4,700	3,600	3,800
TCLP Metals (mg/L)									
Arsenic			5	NA	NA	NA	NA	NA	NA
Barium			100	NA	NA	NA	NA	NA	NA
Cadmium			1	NA	NA	NA	NA	NA	NA
Chromium			5	NA	NA	NA	NA	NA	NA
Copper			---	NA	NA	NA	NA	NA	NA
Lead			5	NA	NA	NA	NA	NA	NA
Mercury			0.2	NA	NA	NA	NA	NA	NA
Selenium			1	NA	NA	NA	NA	NA	NA
Silver			5	NA	NA	NA	NA	NA	NA
Zinc			---	NA	NA	NA	NA	NA	NA

Table 1-B
Analytical Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

			Client Sample ID :	BG-S170-100709	BG-S172-100709	BG-S173-100709	BG-S175-100709	BG-S176-100709	BG-S179-100709
			Area Collected:	Residential area	Residential area	Residential area	Residential area	Residential area	Residential area
			Sample Type:	Tailings	Soil	Soil	Soil	Soil	Soil
			Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)	TCLP Screening Level (mg/L)						
Total Metals (mg/kg)									
Arsenic	25	---		50	4.4	3.9	15	15	11
Barium		15,000		13	190	190	260	200	210
Cadmium		70		12	< 0.59	< 0.56	4	15	1.5
Chromium		280		1.9	16	15	12	12	29
Copper		3,100		38	13	13	15	15	28
Lead	400	400		1,300	23	26	850	360	150
Mercury		4.3		< 0.025	< 0.029	< 0.03	0.056	0.053	0.055
Selenium		390		< 1	< 1.2	< 1.1	< 1.1	< 1.2	< 1.2
Silver		390		< 1	< 1.2	< 1.1	< 1.1	< 1.2	< 1.2
Zinc		23,000		4,300	81	83	1,600	5,300	650
TCLP Metals (mg/L)									
Arsenic			5	NA	NA	NA	NA	NA	NA
Barium			100	NA	NA	NA	NA	NA	NA
Cadmium			1	NA	NA	NA	NA	NA	NA
Chromium			5	NA	NA	NA	NA	NA	NA
Copper			---	NA	NA	NA	NA	NA	NA
Lead			5	NA	NA	NA	NA	NA	NA
Mercury			0.2	NA	NA	NA	NA	NA	NA
Selenium			1	NA	NA	NA	NA	NA	NA
Silver			5	NA	NA	NA	NA	NA	NA
Zinc			---	NA	NA	NA	NA	NA	NA

Table 1-B
Analytical Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

			Client Sample ID :	BG-S181-100709	BG-S183-100709	BG-S42-100709-D	BG-S40-100709-D	BG-S169-100709-D
			Area Collected:	Residential area	Residential area	Residential area	East Side of	Residential area
			Sample Type:	Soil	Soil	Soil	Tailings	Soil
			Date Collected :	10/07/2009	10/07/2009	10/07/2009	10/07/2009	10/07/2009
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)	TCLP Screening Level (mg/L)					
Total Metals (mg/kg)								
Arsenic	25	---		6.4	7.5	9.6	46	16
Barium		15,000		110	210	260	7.6	170
Cadmium		70		< 0.65	< 0.69	< 0.62	9.9	11
Chromium		280		16	20	21	1.3	13
Copper		3,100		17	20	18	33	30
Lead	400	400		140	110	100	910	580
Mercury		4.3		0.033	< 0.033	< 0.033	< 0.029	0.076
Selenium		390		< 1.3	< 1.4	< 1.2	< 1	< 1.3
Silver		390		< 1.3	< 1.4	< 1.2	< 1	< 1.3
Zinc		23,000		600	450	570	3,600	5,300
TCLP Metals (mg/L)								
Arsenic			5	NA	NA	NA	NA	NA
Barium			100	NA	NA	NA	NA	NA
Cadmium			1	NA	NA	NA	NA	NA
Chromium			5	NA	NA	NA	NA	NA
Copper			---	NA	NA	NA	NA	NA
Lead			5	NA	NA	NA	NA	NA
Mercury			0.2	NA	NA	NA	NA	NA
Selenium			1	NA	NA	NA	NA	NA
Silver			5	NA	NA	NA	NA	NA
Zinc			---	NA	NA	NA	NA	NA

Table 1-B
Analytical Results for Metals - Surface Soil
Bautsch Gray Mine Site
Jo Daviess County, Illinois

			Client Sample ID :	BG-S110-100709-D
			Area Collected:	Horseshoe area
			Sample Type:	Tailings
			Date Collected :	10/07/2009
Analyte	U.S. EPA/ATSDR Cleanup Objective (mg/kg)	U.S. EPA RSL for Residential Soils (mg/kg)	TCLP Screening Level (mg/L)	
Total Metals (mg/kg)				
Arsenic	25	---		50
Barium		15,000		11
Cadmium		70		11
Chromium		280		1.7
Copper		3,100		30
Lead	400	400		940
Mercury		4.3		< 0.026
Selenium		390		< 0.91
Silver		390		< 0.91
Zinc		23,000		3,400
TCLP Metals (mg/L)				
Arsenic			5	NA
Barium			100	NA
Cadmium			1	NA
Chromium			5	NA
Copper			---	NA
Lead			5	NA
Mercury			0.2	NA
Selenium			1	NA
Silver			5	NA
Zinc			---	NA

Notes:
Gray shaded data exceeds one or more screening levels.
Yellow highighed values exceed removal action level of 1,200 ppm for lead as well as cleanup objective of 400 ppm for lead.
ATSDR = Agency for Toxic Substances & Disease Registry
ID = Identification
mg/kg = Milligram per kilogram
mg/L = Milligram per liter
< = Less than
--- = Not available or applicable
NA = Not analyzed
ppm = Part per million
RSL = Regional Screening Level
U.S. EPA = United States Environmental Protection Agency

Table 2-A
Analytical Results for Metals - Residential Well Water
Bautsch Gray Mine Site
Jo Daviess County, Illinois

Parameter	Sample ID	BG-RW01-100609	BG-RW02-100609	BG-RW02-100609-D
	Sampling Date	October 6, 2009	October 6, 2009	October 6, 2009
	Sample Matrix	Water	Water	Water
	Sampling Location	746 S. Blackjack Rd.	820 S. Blackjack Rd.	Field Duplicate of RW02
pH	SU	6.95	7.01	7.09
Metals				
Aluminum, Total	mg/L	<0.10	<0.10	<0.10
Antimony, Total	mg/L	<0.0020	<0.0020	<0.0020
Arsenic, Total	mg/L	<0.0010	<0.0014	**0.0014**
Barium, Total	mg/L	**0.016**	**0.016**	**0.017**
Beryllium, Total	mg/L	<0.0010	<0.0010	<0.0010
Cadmium, Total	mg/L	**0.0011 J+**	<0.00050	<0.00050
Calcium, Total	mg/L	**280**	**170**	**180**
Chromium, Total	mg/L	<0.0050	<0.0050	<0.0050
Cobalt, Total	mg/L	<0.0010	**0.00080 J**	**0.00079 J**
Copper, Total	mg/L	**0.021**	<0.0020	**0.0012 J**
Iron, Total	mg/L	<0.10	**2.1**	**2.2**
Lead, Total	mg/L	**0.027**	**0.00079**	**0.0016**
Magnesium, Total	mg/L	**97**	**85**	**88**
Manganese, Total	mg/L	**0.0030**	**0.18**	**0.18**
Mercury, Total	mg/L	<0.00020	<0.00020	<0.00020
Nickel, Total	mg/L	**0.0024**	**0.0030**	**0.0029**
Potassium, Total	mg/L	**1.5**	**1.4**	**1.5**
Selenium, Total	mg/L	<0.0025	<0.0025	<0.0025
Silver, Total	mg/L	<0.00050	<0.00050	<0.00050
Sodium, Total	mg/L	**7.8**	**6.6**	**6.8**
Thallium, Total	mg/L	**0.00054 J**	<0.0020	<0.0020
Vanadium, Total	mg/L	<0.0050	<0.0050	<0.0050
Zinc, Total	mg/L	**1.2**	**0.60**	**0.62**

Notes:

Bolded results exceed the reporting limit

Yellow highlighted results exceed maximum contaminant level

ID = Identification

J = Analyte detected below quantitative limit

J+ = Result should be considered estimated biased high

mg/L = Milligram per liter

SU = Standard unit

< = Less than

Table 2-B
Analytical Results for VOCs - Residential Well Water
Bautsch Gray Mine Site
Jo Daviess County, Illinois

Parameter	Sample ID	BG-RW01-100609	BG-RW02-100609	BG-RW02-100609-D
	Sampling Date	October 6, 2009	October 6, 2009	October 6, 2009
	Sample Matrix	Water	Water	Water
	Sampling Location	746 S. Blackjack Rd.	820 S. Blackjack Rd.	Field Duplicate of RW02
	Units			
VOCs				
1,1,1-Trichloroethane	mg/L	<0.0010	<0.0010	<0.0010
1,1,2,2-Tetrachloroethane	mg/L	<0.0010	<0.0010	<0.0010
1,1,2-Trichloroethane	mg/L	<0.0010	<0.0010	<0.0010
1,1-Dichloroethane	mg/L	<0.0010	<0.0010	<0.0010
1,1-Dichloroethene	mg/L	<0.0010	<0.0010	<0.0010
1,2-Dichloroethane	mg/L	<0.0010	<0.0010	<0.0010
1,2-Dichloropropane	mg/L	<0.0010	<0.0010	<0.0010
1,3-Dichloropropene, Total	mg/L	<0.0010	<0.0010	<0.0010
2-Hexanone	mg/L	<0.0050	<0.0050	<0.0050
4-Methyl-2-pentanone	mg/L	<0.0050	<0.0050	<0.0050
Acetone	mg/L	<0.0050	<0.0050	<0.0050
Benzene	mg/L	<0.0010	<0.0010	<0.0010
Bromodichloromethane	mg/L	<0.0010	<0.0010	<0.0010
Bromoform	mg/L	<0.0010	<0.0010	<0.0010
Bromomethane	mg/L	<0.0010 UJ	<0.0010 UJ	<0.0010 UJ
Carbon disulfide	mg/L	<0.0050	<0.0050	<0.0050
Carbon tetrachloride	mg/L	<0.0010	<0.0010	<0.0010
Chlorobenzene	mg/L	<0.0010	<0.0010	<0.0010
Chloroethane	mg/L	<0.0010	<0.0010	<0.0010
Chloroform	mg/L	<0.0010	<0.0010	<0.0010
Chloromethane	mg/L	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	mg/L	<0.0010	<0.0010	<0.0010
cis-1,3-Dichloropropene	mg/L	<0.0010	<0.0010	<0.0010
Dibromochloromethane	mg/L	<0.0010	<0.0010	<0.0010
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010
Methyl ethyl ketone	mg/L	<0.0050	<0.0050	<0.0050
Methyl tert-butyl ether	mg/L	<0.0010	<0.0010	<0.0010
Methylene chloride	mg/L	<0.0020	<0.0020	<0.0020
Styrene	mg/L	<0.0010	<0.0010	<0.0010
Tetrachloroethene	mg/L	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.0010	<0.0010	<0.0010
trans-1,2-Dichloroethene	mg/L	<0.0010	<0.0010	<0.0010
trans-1,3-Dichloropropene	mg/L	<0.0010	<0.0010	<0.0010
Trichloroethene	mg/L	<0.0010	<0.0010	<0.0010
Vinylchloride	mg/L	<0.0010	<0.0010	<0.0010
Xylene (Total)	mg/L	<0.0020	<0.0020	<0.0020

Notes:
ID = Identification
mg/L = Milligram per liter
< = Less than
UJ = Quantitation limit should be considered estimated
VOC = Volatile organic compound

Table 2-C
Analytical Results for SVOCs - Residential Well Water
Bautsch Gray Mine Site
Jo Daviess County, Illinois

Parameter	Sample ID	BG-RW01-100609	BG-RW02-100609	BG-RW02-100609-D
	Sampling Date	October 6, 2009	October 6, 2009	October 6, 2009
	Sample Matrix	Water	Water	Water
	Sampling Location	746 S. Blackjack Rd.	820 S. Blackjack Rd.	Field Duplicate of RW02
	Units			
SVOCs				
1,2,4-Trichlorobenzene	mg/L	<0.0019	<0.0019	<0.0019
1,2-Dichlorobenzene	mg/L	<0.0019	<0.0019	<0.0019
1,3-Dichlorobenzene	mg/L	<0.0019	<0.0019	<0.0019
1,4-Dichlorobenzene	mg/L	<0.0019	<0.0019	<0.0019
2,4,5-Trichlorophenol	mg/L	<0.0094	<0.0093	<0.0093
2,4,6-Trichlorophenol	mg/L	<0.0047	<0.0047	<0.0047
2,4-Dichlorophenol	mg/L	<0.0094	<0.0093	<0.0093
2,4-Dimethylphenol	mg/L	<0.0094	<0.0093	<0.0093
2,4-Dinitrophenol	mg/L	<0.019	<0.019	<0.019
2,4-Dinitrotoluene	mg/L	<0.00094	<0.00093	<0.00093
2,6-Dinitrotoluene	mg/L	<0.00047	<0.00047	<0.00047
2-Chloronaphthalene	mg/L	<0.0019	<0.0019	<0.0019
2-Chlorophenol	mg/L	<0.0047	<0.0047	<0.0047
2-Methylnaphthalene	mg/L	<0.00047	<0.00047	<0.00047
2-Methylphenol	mg/L	<0.0019	<0.0019	<0.0019
2-Nitroaniline	mg/L	<0.0047	<0.0047	<0.0047
2-Nitrophenol	mg/L	<0.0094	<0.0093	<0.0093
3,3'-Dichlorobenzidine	mg/L	<0.0047	<0.0047	<0.0047
3-Nitroaniline	mg/L	<0.0094	<0.0093	<0.0093
4,3-Methylphenol(2)	mg/L	<0.0019	<0.0019	<0.0019
4,6-Dinitro-2-methylphenol	mg/L	<0.019	<0.019	<0.019
4-Bromophenyl-phenylether	mg/L	<0.0047	<0.0047	<0.0047
4-Chloro-3-methylphenol	mg/L	<0.0094	<0.0093	<0.0093
4-Chloroaniline	mg/L	<0.0094	<0.0093	<0.0093
4-Chlorophenyl-phenylether	mg/L	<0.0047	<0.0047	<0.0047
4-Nitroaniline	mg/L	<0.0094	<0.0093	<0.0093
4-Nitrophenol	mg/L	<0.019	<0.019	<0.019
Acenaphthene	mg/L	<0.0094	<0.00093	<0.00093
Acenaphthylene	mg/L	<0.00094	<0.00093	<0.00093
Anthracene	mg/L	<0.00094	<0.00093	<0.00093
Benz(a)anthracene	mg/L	<0.00012	<0.00012	<0.00012
Benzo(a)pyrene	mg/L	<0.00019	<0.00019	<0.00019
Benzo(b)fluoranthene	mg/L	<0.00017	<0.00017	<0.00017
Benzo(g,h,i)perylene	mg/L	<0.00094	<0.00093	<0.00093
Benzo(k)fluoranthene	mg/L	<0.00016	<0.00016	<0.00016
bis(2-Chloroethoxy)methane	mg/L	<0.0019	<0.0019	<0.0019
bis(2-Chloroethyl)ether	mg/L	<0.0019	<0.0019	<0.0019
bis(2-Chloroisopropyl)ether	mg/L	<0.0019	<0.0019	<0.0019
bis(2-Ethylhexyl)phthalate	mg/L	<0.0094	<0.0093	<0.0093

Table 2-C
Analytical Results for SVOCs - Residential Well Water
Bautsch Gray Mine Site
Jo Daviess County, Illinois

Parameter	Sample ID	BG-RW01-100609	BG-RW02-100609	BG-RW02-100609-D
	Sampling Date	October 6, 2009	October 6, 2009	October 6, 2009
	Sample Matrix	Water	Water	Water
	Sampling Location	746 S. Blackjack Rd.	820 S. Blackjack Rd.	Field Duplicate of RW02
	Units			
SVOCs				
Butyl benzyl phthalate	mg/L	<0.0019	<0.0019	<0.0019
Carbazole	mg/L	<0.0047	<0.0047	<0.0047
Chrysene	mg/L	<0.00047	<0.00047	<0.00047
Dibenz(a,h)anthracene	mg/L	<0.00028	<0.00028	<0.00028
Dibenzofuran	mg/L	<0.0019	<0.0019	<0.0019
Diethylphthalate	mg/L	<0.0019	<0.0019	<0.0019
Dimethyl phthalate	mg/L	<0.0019	<0.0019	<0.0019
Di-N-Butyl phthalate	mg/L	<0.0047	<0.0047	<0.0047
Di-N-Octyl phthalate	mg/L	<0.0094	<0.0093	<0.0093
Fluoranthene	mg/L	<0.00094	<0.00093	<0.00093
Fluorene	mg/L	<0.00094	<0.00093	<0.00093
Hexachlorobenzene	mg/L	<0.00047	<0.00047	<0.00047
Hexachlorobutadiene	mg/L	<0.0047	<0.0047	<0.0047
Hexachlorocyclopentadiene	mg/L	<0.019	<0.019	<0.019
Hexachloroethane	mg/L	<0.0047	<0.0047	<0.0047
Indeno(1,2,3-cd)pyrene	mg/L	<0.00019	<0.00019	<0.00019
Isophorone	mg/L	<0.0019	<0.0019	<0.0019
Naphthalene	mg/L	<0.00094	<0.00093	<0.00093
Nitrobenzene	mg/L	<0.00094	<0.00093	<0.00093
N-Nitroso-di-N-propylamine	mg/L	<0.00047	<0.0047	<0.0047
N-Nitrosodiphenylamine	mg/L	<0.00094	<0.00093	<0.00093
Pentachlorophenol	mg/L	<0.019	<0.019	<0.019
Phenanthrene	mg/L	<0.00094	<0.00093	<0.00093
Phenol	mg/L	<0.0047	<0.0047	<0.0047
Pyrene	mg/L	<0.00094	<0.00093	<0.00093

Notes:
ID = Identification
mg/L = Milligram per liter
SVOC = Semivolatile organic compound
< = Less than

Table 3-A
Analytical Results for Metals - Surface Water
Bautsch Gray Mine Site
Jo Daviess County, Illinois

Parameter	Sample ID	BG-SW01-100709	BG-SW02-100709
	Sampling Date	October 7, 2009	October 7, 2009
	Sample Matrix	Surface Water	Surface Water
pH	SU	7.27	7.60
Metals			
Aluminum, Total	mg/L	**27**	**0.025 J**
Antimony, Total	mg/L	**0.0045 J**	<0.0020
Arsenic, Total	mg/L	**0.22**	**0.00029 J**
Barium, Total	mg/L	**0.18**	**0.022**
Beryllium, Total	mg/L	**0.0041**	<0.0010
Cadmium, Total	mg/L	**0.39**	**0.0012 J+**
Calcium, Total	mg/L	**1300**	**400**
Chromium, Total	mg/L	**0.047 J**	<0.0050
Cobalt, Total	mg/L	**0.19**	**0.0011**
Copper, Total	mg/L	**0.40**	**0.0037**
Iron, Total	mg/L	**230**	**0.25**
Lead, Total	mg/L	**63**	**0.020**
Magnesium, Total	mg/L	**260**	**64**
Manganese, Total	mg/L	**7.1**	**0.087**
Mercury, Total	mg/L	**0.00039**	<0.00020
Nickel, Total	mg/L	**0.37**	**0.016**
Potassium, Total	mg/L	**23**	**3.9**
Selenium, Total	mg/L	**0.050**	<0.0025
Silver, Total	mg/L	<0.0073	<0.00050
Sodium, Total	mg/L	**0.96**	**7.4**
Thallium, Total	mg/L	**0.0039 J**	<0.0020
Vanadium, Total	mg/L	**0.029**	<0.0050
Zinc, Total	mg/L	**130 J**	**3.2**

Notes:

Bolded results exceed the reporting limit

Yellow highlighted results exceed the MCL

Gray highlighted results exceed the U.S. EPA RSL for tap water

Blue highlighted results exceed the U.S. EPA RSL for tap water and the MCL

ID = Identification

J = Analyte detected below quantitative limit

J+ = Result should be considered estimated biased high

MCL = Maximum contaminant level

mg/L = Milligram per liter

< = Less than

RSL = Regional Screening Level

SU = Standard unit

U.S. EPA = United States Environmental Protection Agency

Table 3-B
Analytical Results for VOCs - Surface Water
Bautsch Gray Mine Site
Jo Daviess County, Illinois

Parameter	Sample ID	BG-SW01-100709	BG-SW02-100709
	Sampling Date	October 7, 2009	October 7, 2009
	Sample Matrix	Surface Water	Surface Water
	Units		
VOCs			
1,1,1-Trichloroethane	mg/L	<0.0010	<0.0010
1,1,2,2-Tetrachloroethane	mg/L	<0.0010	<0.0010
1,1,2-Trichloroethane	mg/L	<0.0010	<0.0010
1,1-Dichloroethane	mg/L	<0.0010	<0.0010
1,1-Dichloroethene	mg/L	<0.0010	<0.0010
1,2-Dichloroethane	mg/L	<0.0010	<0.0010
1,2-Dichloropropane	mg/L	<0.0010	<0.0010
1,3-Dichloropropene, Total	mg/L	<0.0010	<0.0010
2-Hexanone	mg/L	<0.0050	<0.0050
4-Methyl-2-pentanone	mg/L	<0.0050	<0.0050
Acetone	mg/L	**0.0071**	<0.0050
Benzene	mg/L	<0.0010	<0.0010
Bromodichloromethane	mg/L	<0.0010	<0.0010
Bromoform	mg/L	<0.0010	<0.0010
Bromomethane	mg/L	<0.0010 UJ	<0.0010 UJ
Carbon disulfide	mg/L	<0.0050	<0.0050
Carbon tetrachloride	mg/L	<0.0010	<0.0010
Chlorobenzene	mg/L	<0.0010	<0.0010
Chloroethane	mg/L	<0.0010	<0.0010
Chloroform	mg/L	<0.0010	<0.0010
Chloromethane	mg/L	<0.0010	<0.0010
cis-1,2-Dichloroethene	mg/L	<0.0010	<0.0010
cis-1,3-Dichloropropene	mg/L	<0.0010	<0.0010
Dibromochloromethane	mg/L	<0.0010	<0.0010
Ethylbenzene	mg/L	<0.0010	<0.0010
Methyl ethyl ketone	mg/L	<0.0050	<0.0050
Methyl tert-butyl ether	mg/L	<0.0010	<0.0010
Methylene chloride	mg/L	<0.0020	<0.0020
Styrene	mg/L	<0.0010	<0.0010
Tetrachloroethene	mg/L	<0.0010	<0.0010
Toluene	mg/L	<0.0010	<0.0010
trans-1,2-Dichloroethene	mg/L	<0.0010	<0.0010
trans-1,3-Dichloropropene	mg/L	<0.0010	<0.0010
Trichloroethene	mg/L	<0.0010	<0.0010
Vinylchloride	mg/L	<0.0010	<0.0010
Xylene (Total)	mg/L	<0.0020	<0.0020

Notes:

Bolded results exceed the reporting limit

ID = Identification

mg/L = Milligram per liter

< = Less than

UJ = Quantiation limit should be considered estimated

VOC = Volatile organic compound

Table 3-C
Analytical Results for SVOCs - Surface Water
Bautsch Gray Mine Site
Jo Daviess County, Illinois

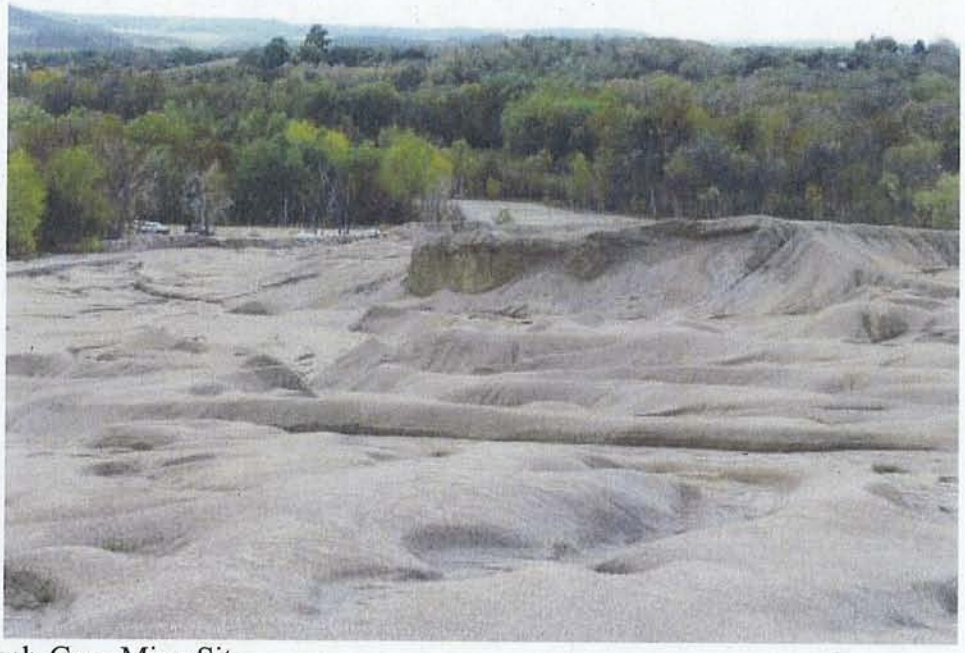
Parameter	Sample ID	BG-SW01-100709	BG-SW02-100709
	Sampling Date	October 7, 2009	October 7, 2009
	Sample Matrix	Surface Water	Surface Water
	Units		
SVOCs			
1,2,4-Trichlorobenzene	mg/L	<0.0019	<0.0021
1,2-Dichlorobenzene	mg/L	<0.0019	<0.0021
1,3-Dichlorobenzene	mg/L	<0.0019	<0.0021
1,4-Dichlorobenzene	mg/L	<0.0019	<0.0021
2,4,5-Trichlorophenol	mg/L	<0.0096	<0.010
2,4,6-Trichlorophenol	mg/L	<0.0048	<0.0052
2,4-Dichlorophenol	mg/L	<0.0096	<0.010
2,4-Dimethylphenol	mg/L	<0.0096	<0.010
2,4-Dinitrophenol	mg/L	<0.019	<0.021
2,4-Dinitrotoluene	mg/L	<0.00096	<0.0010
2,6-Dinitrotoluene	mg/L	<0.00048	<0.00052
2-Chloronaphthalene	mg/L	<0.0019	<0.0021
2-Chlorophenol	mg/L	<0.0048	<0.0052
2-Methylnaphthalene	mg/L	<0.00048	<0.00052
2-Methylphenol	mg/L	<0.0019	<0.0021
2-Nitroaniline	mg/L	<0.0048	<0.0052
2-Nitrophenol	mg/L	<0.0096	<0.010
3,3'-Dichlorobenzidine	mg/L	<0.0048	<0.0052
3-Nitroaniline	mg/L	<0.0096	<0.010
4,3-Methylphenol(2)	mg/L	<0.0019	<0.0021
4,6-Dinitro-2-methylphenol	mg/L	<0.019	<0.021
4-Bromophenyl-phenylether	mg/L	<0.0048	<0.0052
4-Chloro-3-methylphenol	mg/L	<0.0096	<0.010
4-Chloroaniline	mg/L	<0.0096	<0.010
4-Chlorophenyl-phenylether	mg/L	<0.0048	<0.0052
4-Nitroaniline	mg/L	<0.0096	<0.010
4-Nitrophenol	mg/L	<0.019	<0.021
Acenaphthene	mg/L	<0.0096	<0.0010
Acenaphthylene	mg/L	<0.00096	<0.0010
Anthracene	mg/L	<0.00096	<0.0010
Benz(a)anthracene	mg/L	<0.00012	<0.00013
Benzo(a)pyrene	mg/L	<0.00019	<0.00021
Benzo(b)fluoranthene	mg/L	<0.00017	<0.00019
Benzo(g,h,i)perylene	mg/L	<0.00096	<0.0010
Benzo(k)fluoranthene	mg/L	<0.00016	<0.00018
bis(2-Chloroethoxy)methane	mg/L	<0.0019	<0.0021
bis(2-Chloroethyl)ether	mg/L	<0.0019	<0.0021
bis(2-Chloroisopropyl)ether	mg/L	<0.0019	<0.0021
bis(2-Ethylhexyl)phthalate	mg/L	<0.0096	<0.010
Butyl benzyl phthalate	mg/L	<0.0019	<0.0021
Carbazole	mg/L	<0.0048	<0.0052
Chrysene	mg/L	<0.00048	<0.00052
Dibenz(a,h)anthracene	mg/L	<0.00028	<0.00031
Dibenzofuran	mg/L	<0.0019	<0.0021

Table 3-C
Analytical Results for SVOCs - Surface Water
Bautsch Gray Mine Site
Jo Daviess County, Illinois

Parameter	Sample ID	BG-SW01-100709	BG-SW02-100709
	Sampling Date	October 7, 2009	October 7, 2009
	Sample Matrix	Surface Water	Surface Water
	Units		
SVOCs			
Diethylphthalate	mg/L	<0.0019	<0.0021
Dimethyl phthalate	mg/L	<0.0019	<0.0021
Di-N-Butyl phthalate	mg/L	<0.0048	<0.0052
Di-N-Octyl phthalate	mg/L	<0.0096	<0.010
Fluoranthene	mg/L	<0.00096	<0.0010
Fluorene	mg/L	<0.00096	<0.0010
Hexachlorobenzene	mg/L	<0.00048	<0.00052
Hexachlorobutadiene	mg/L	<0.0048	<0.0052
Hexachlorocyclopentadiene	mg/L	<0.019	<0.021
Hexachloroethane	mg/L	<0.0048	<0.0052
Indeno(1,2,3-cd)pyrene	mg/L	<0.00019	<0.00019
Isophorone	mg/L	<0.0019	<0.0019
Naphthalene	mg/L	<0.00096	<0.0010
Nitrobenzene	mg/L	<0.00096	<0.0010
N-Nitroso-di-N-propylamine	mg/L	<0.00048	<0.00052
N-Nitrosodiphenylamine	mg/L	<0.00096	<0.0010
Pentachlorophenol	mg/L	<0.019	<0.021
Phenanthrene	mg/L	<0.00096	<0.0010
Phenol	mg/L	<0.0048	<0.0052
Pyrene	mg/L	<0.00096	<0.0010

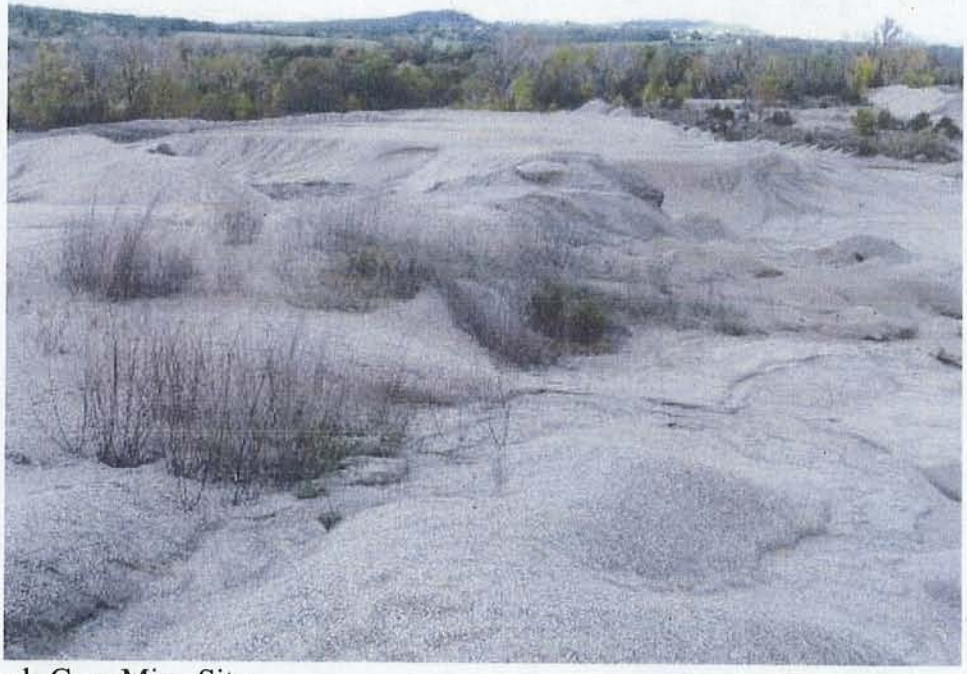
Notes:
ID = Identification
mg/L = Milligram per liter
SVOC = Semivolatile organic compound
< = Less than

APPENDIX A
PHOTOGRAPHIC DOCUMENTATION



Site: Bautsch-Gray Mine Site
Photograph No.: 1
Direction: East
Subject: Vertical extent of tailings at the mine property

Date: October 6, 2009
Photographer: Jeff Bryniarski

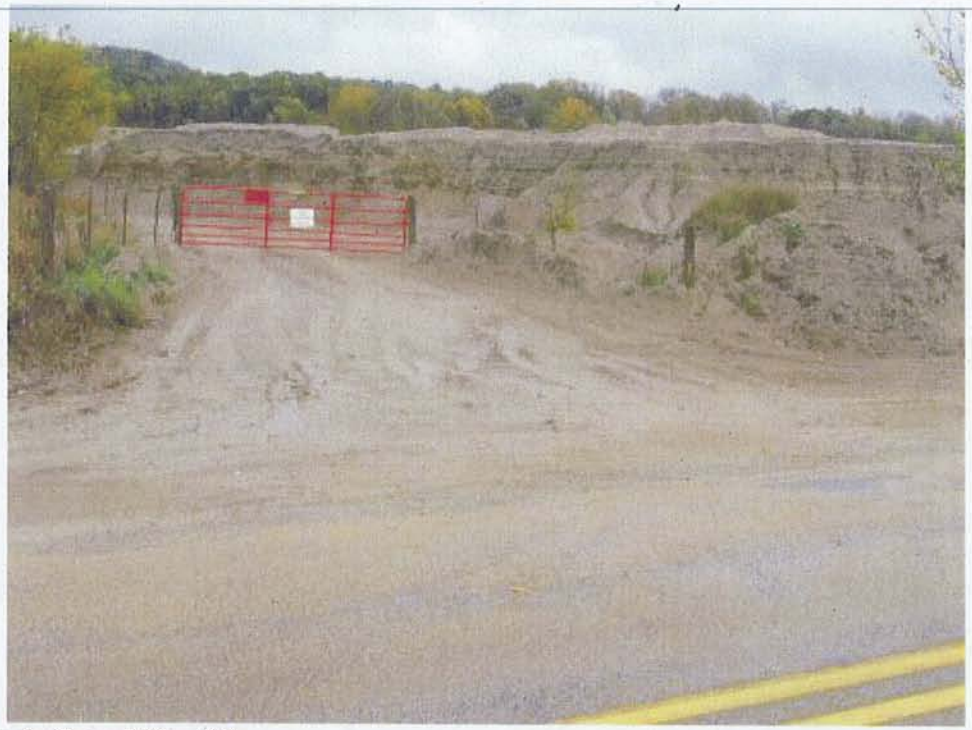


Site: Bautsch-Gray Mine Site
Photograph No.: 2
Direction: West
Subject: Mine tailing piles at mine property

Date: October 6, 2009
Photographer: Jeff Bryniarski

Site: Bautsch-Gray Mine Site
Photograph No.: 3
Direction: North
Subject: Mine tailing berm at mine property

Date: October 6, 2009
Photographer: Jeff Bryniarski



Site: Bautsch-Gray Mine Site
Photograph No.: 4
Direction: East
Subject: Gate at driveway entrance to mine property

Date: October 6, 2009
Photographer: Jeff Bryniarski

Site: Bautsch-Gray Mine Site
Photograph No.: 5 **Date:** October 6, 2009
Direction: West **Photographer:** Jeff Bryniarski
Subject: View of mine tailings toward residence at 746 S. Blackjack Road

Site: Bautsch-Gray Mine Site
Photograph No.: 6 **Date:** October 6, 2009
Direction: West **Photographer:** Jeff Bryniarski
Subject: Residence across the street from the mine property at 746 S. Blackjack Road

Site: Bautsch-Gray Mine Site
Photograph No.: 7 **Date:** October 6, 2009
Direction: West **Photographer:** Jeff Bryniarski
Subject: Runoff ravine on residential property at 746 S. Blackjack Road

Site: Bautsch-Gray Mine Site
Photograph No.: 8 **Date:** October 6, 2009
Direction: Southwest **Photographer:** Jeff Bryniarski
Subject: Mine tailings on residential property at 746 S. Blackjack Road from previous storm events

Site: Bautsch-Gray Mine Site
Photograph No.: 9 **Date:** October 6, 2009
Direction: North **Photographer:** Jeff Bryniarski
Subject: Storm water drainage to stand pipe at mine property

Site: Bautsch-Gray Mine Site
Photograph No.: 10 **Date:** October 6, 2009
Direction: East **Photographer:** Jeff Bryniarski
Subject: Storm water drainage pipe on west side of Blackjack Road

Site: Bautsch-Gray Mine Site
Photograph No.: 11 **Date:** October 6, 2009
Direction: West **Photographer:** Jeff Bryniarski
Subject: Storm water runoff ravine on west side of Blackjack Road

Site: Bautsch-Gray Mine Site
Photograph No.: 12 **Date:** October 6, 2009
Direction: Southwest **Photographer:** Jeff Bryniarski
Subject: Truck in runoff ravine buried in mine tailing buildup

Site: Bautsch-Gray Mine Site
Photograph No.: 13 **Date:** October 6, 2009
Direction: South **Photographer:** Jeff Bryniarski
Subject: Broken dam and garbage pile at south end of runoff ravine

Site: Bautsch-Gray Mine Site
Photograph No.: 14 **Date:** October 6, 2009
Direction: South **Photographer:** Jeff Bryniarski
Subject: Further runoff past broken dam at south end of runoff ravine

Site: Bautsch-Gray Mine Site
Photograph No.: 15 **Date:** October 7, 2009
Direction: Southwest **Photographer:** Jeff Bryniarski
Subject: U.S. EPA FIELDS collecting XRF soil samples

Site: Bautsch-Gray Mine Site
Photograph No.: 16 **Date:** October 7, 2009
Direction: Southwest **Photographer:** Jeff Bryniarski
Subject: U.S. EPA FIELDS homogenizing XRF soil samples

Site: Bautsch-Gray Mine Site
Photograph No.: 17
Direction: Southwest
Date: October 7, 2009
Photographer: Jeff Bryniarski
Subject: U.S. EPA FIELDS field screening XRF soil samples

Site: Bautsch-Gray Mine Site
Photograph No.: 18
Direction: Southeast
Date: October 7, 2009
Photographer: Jeff Bryniarski
Subject: WESTON START conducting residential well water sampling at RW02

Site: Bautsch-Gray Mine Site
Photograph No.: 19 **Date:** October 7, 2009
Direction: Southeast **Photographer:** Len Zintak
Subject: WESTON START conducting site surface water sampling at SW01

APPENDIX B
LABORATORY ANALYTICAL REPORT
AND DATA VALIDATION REPORT

BAUTSCH GREY MINE SITE
GALENA, ILLINOIS
DATA VALIDATION REPORT

Date: November 13, 2009
Laboratory: STAT Analysis Corporation (STAT), Chicago, Illinois
Laboratory Project #: 09100274
Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)
Weston Analytical Work Order #/TDD #: 20405.016.001.0768.00/S05-0001-0909-012

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for 36 soil samples collected for the Bautsch Grey Mine Site that were analyzed for the following parameters and U.S. Environmental Protection Agency (U.S. EPA) methods:

- Metals by SW-846 Methods 6020 and 7471A
- Toxicity Characteristic Leaching Procedure (TCLP) Metals by SW-846 Methods 1311, 6020, and 7470A
- pH by SW-846 Method 9045C

A level IV data package was requested from STAT. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated October 2004. The Attachment contains the results summary sheets with the hand-written qualifiers applied during data validation.

Data Validation Report
Bautsch Grey Mine Site
STAT Analysis Corporation
Laboratory Project #: 09100274

METALS BY SW-846 METHODS 6020 AND 7471A AND TCLP METALS BY SW-846 METHODS 1311, 6020, AND 7470A

1. Samples

The following table summarizes the soil samples for which this data validation is being conducted. Only five of the soil samples were analyzed for TCLP metals.

Samples	Lab ID	Date Collected	Date Analyzed
BG-S2-100709	09100274-001	10/7/2009	10/10/2009 – 10/16/2009
BG-S8-100709	09100274-002	10/7/2009	10/10/2009 – 10/16/2009
BG-S19-100709	09100274-003	10/7/2009	10/10/2009 – 10/16/2009
BG-S24-100709	09100274-004	10/7/2009	10/10/2009 – 10/16/2009
BG-S27-100709	09100274-005	10/7/2009	10/10/2009 – 10/13/2009
BG-S36-100709	09100274-006	10/7/2009	10/10/2009 – 10/13/2009
BG-S40-100709	09100274-007	10/7/2009	10/10/2009 – 10/13/2009
BG-S42-100709	09100274-008	10/7/2009	10/10/2009 – 10/13/2009
BG-S43-100709	09100274-009	10/7/2009	10/10/2009 – 10/13/2009
BG-S46-100709	09100274-010	10/7/2009	10/10/2009 – 10/13/2009
BG-S56-100709	09100274-011	10/7/2009	10/10/2009 – 10/16/2009
BG-S110-100709	09100274-012	10/7/2009	10/10/2009 – 10/16/2009
BG-S115-100709	09100274-013	10/7/2009	10/10/2009 – 10/13/2009
BG-S119-100709	09100274-014	10/7/2009	10/10/2009 – 10/16/2009
BG-S120-100709	09100274-015	10/7/2009	10/10/2009 – 10/13/2009
BG-S124-100709	09100274-016	10/7/2009	10/10/2009 – 10/13/2009
BG-S131-100709	09100274-017	10/7/2009	10/10/2009 – 10/13/2009
BG-S145-100709	09100274-018	10/7/2009	10/10/2009 – 10/13/2009
BG-S146-100709	09100274-019	10/7/2009	10/10/2009 – 10/13/2009
BG-S162-100709	09100274-020	10/7/2009	10/10/2009 – 10/13/2009
BG-S166-100709	09100274-021	10/7/2009	10/10/2009 – 10/13/2009
BG-S167-100709	09100274-022	10/7/2009	10/10/2009 – 10/13/2009
BG-S168-100709	09100274-023	10/7/2009	10/10/2009 – 10/13/2009
BG-S169-100709	09100274-024	10/7/2009	10/10/2009 – 10/13/2009
BG-S170-100709	09100274-025	10/7/2009	10/10/2009 – 10/16/2009
BG-S172-100709	09100274-026	10/7/2009	10/10/2009 – 10/13/2009
BG-S173-100709	09100274-027	10/7/2009	10/10/2009 – 10/13/2009
BG-S175-100709	09100274-028	10/7/2009	10/10/2009 – 10/13/2009
BG-S176-100709	09100274-029	10/7/2009	10/10/2009 – 10/13/2009
BG-S179-100709	09100274-030	10/7/2009	10/10/2009 – 10/13/2009
BG-S181-100709	09100274-031	10/7/2009	10/10/2009 – 10/13/2009

Data Validation Report
Bautsch Grey Mine Site
STAT Analysis Corporation
Laboratory Project #: 09100274

Samples	Lab ID	Date Collected	Date Analyzed
BG-S183-100709	09100274-032	10/7/2009	10/10/2009 – 10/13/2009
BG-S42-100709-D	09100274-033	10/7/2009	10/10/2009 – 10/13/2009
BG-S40-100709-D	09100274-034	10/7/2009	10/10/2009 – 10/13/2009
BG-S169-100709-D	09100274-035	10/7/2009	10/10/2009 – 10/16/2009
BG-S110-100709-D	09100274-036	10/7/2009	10/10/2009 – 10/13/2009

2. Holding Times

The samples were analyzed within the required holding time limit of 180 days from sample collection to analysis and 28 days for mercury.

3. Calibrations

The initial calibration verification and continuing calibration verification (CCV) standards were within the QC limits of 90 to 110 percent recovery (%R) except for as follows. Several CCV standards were associated with the sample analyses on different analyses dates. In some instances zinc was outside the QC limit. STAT re-analyzed these samples for zinc with acceptable results. No qualifications are required.

4. Blank Results

Blanks were analyzed with the samples and were free of target analyte contamination above the reporting limits. A couple of metals were detected below the reporting limit in the method blanks. Because these metal concentrations in the samples were much greater than the method blank concentrations, no qualifications were required.

5. Interference Check Sample (ICS) Results

The ICS solutions A and AB were analyzed. The recoveries in the ICS solution AB were within the QC limits of 80 to 120 %R.

6. LCS Results

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

Data Validation Report
Bautsch Grey Mine Site
STAT Analysis Corporation
Laboratory Project #: 09100274

7. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

Two site-specific MS/MSDs were analyzed by STAT for the total metals analyses. The percent recoveries and relative percent difference (RPD) results were within QC limits with a few exceptions. In some instances, the MS/MSD was not recovered properly because the sample concentration was much greater than the spike amount. No qualifications are warranted in these instances.

A site-specific MS/MSD was not analyzed for the TCLP metals analyses. No qualifications were applied for this omission.

8. Field Duplicate Results

Four field duplicates were collected and analyzed for metals (identified with a "D" suffix). The RPDs between the sample and field duplicate results were compared to a standard QC limit of 50 RPD. All RPDs were less than 50 with one exception. Barium had an RPD of 58 in the field duplicate associated with sample BG-S42-100709-D. This likely indicates some soil collected from the site is somewhat heterogeneous. No qualifications were applied.

9. Overall Assessment

The metals data are acceptable for use based on the information received. A spot-check of sample quantitation was performed and found to be correct. No data required qualification.

GENERAL CHEMISTRY PARAMETERS (pH by 9045C)

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Date Collected	Date Analyzed
BG-S2-100709	09100274-001	10/7/2009	10/10/2009
BG-S8-100709	09100274-002	10/7/2009	10/10/2009
BG-S19-100709	09100274-003	10/7/2009	10/10/2009
BG-S24-100709	09100274-004	10/7/2009	10/10/2009
BG-S27-100709	09100274-005	10/7/2009	10/10/2009
BG-S36-100709	09100274-006	10/7/2009	10/10/2009
BG-S40-100709	09100274-007	10/7/2009	10/10/2009
BG-S42-100709	09100274-008	10/7/2009	10/10/2009
BG-S43-100709	09100274-009	10/7/2009	10/10/2009
BG-S46-100709	09100274-010	10/7/2009	10/10/2009

Data Validation Report
Bautsch Grey Mine Site
STAT Analysis Corporation
Laboratory Project #: 09100274

Samples	Lab ID	Date Collected	Date Analyzed
BG-S56-100709	09100274-011	10/7/2009	10/10/2009
BG-S110-100709	09100274-012	10/7/2009	10/12/2009
BG-S115-100709	09100274-013	10/7/2009	10/12/2009
BG-S119-100709	09100274-014	10/7/2009	10/12/2009
BG-S120-100709	09100274-015	10/7/2009	10/12/2009
BG-S124-100709	09100274-016	10/7/2009	10/12/2009
BG-S131-100709	09100274-017	10/7/2009	10/12/2009
BG-S145-100709	09100274-018	10/7/2009	10/12/2009
BG-S146-100709	09100274-019	10/7/2009	10/12/2009
BG-S162-100709	09100274-020	10/7/2009	10/12/2009
BG-S166-100709	09100274-021	10/7/2009	10/12/2009
BG-S167-100709	09100274-022	10/7/2009	10/12/2009
BG-S168-100709	09100274-023	10/7/2009	10/12/2009
BG-S169-100709	09100274-024	10/7/2009	10/12/2009
BG-S170-100709	09100274-025	10/7/2009	10/12/2009
BG-S172-100709	09100274-026	10/7/2009	10/12/2009
BG-S173-100709	09100274-027	10/7/2009	10/12/2009
BG-S175-100709	09100274-028	10/7/2009	10/12/2009
BG-S176-100709	09100274-029	10/7/2009	10/12/2009
BG-S179-100709	09100274-030	10/7/2009	10/13/2009
BG-S181-100709	09100274-031	10/7/2009	10/13/2009
BG-S183-100709	09100274-032	10/7/2009	10/13/2009
BG-S42-100709-D	09100274-033	10/7/2009	10/13/2009
BG-S40-100709-D	09100274-034	10/7/2009	10/13/2009
BG-S169-100709-D	09100274-035	10/7/2009	10/13/2009
BG-S110-100709-D	09100274-036	10/7/2009	10/13/2009

2. Holding Times

The holding time limits for pH were acceptable.

3. Laboratory Duplicate Results

The laboratory duplicate results were within the QC limits for RPD.

4. Overall Assessment

The pH data are acceptable for use based on the information received.

Data Validation Report
Bautsch Grey Mine Site
STAT Analysis Corporation
Laboratory Project #: 09100274

ATTACHMENT

STAT ANALYSIS CORPORATION
RESULTS SUMMARY

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001;AIHA 101160; NVLAP LabCode 101202-

October 22, 2009

Weston Solutions
20 North Wacker Drive
Suite 1210
Chicago, IL 60606
Telephone: (312) 424-3339
Fax: (312) 424-3330

RE: 20405.016.001.0763.00, Bautech-Gray, Galena, IL STAT Project No 09100274

Dear Lisa Graczyk:

STAT Analysis received 36 samples for the referenced project on 10/8/2009 12:40:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Craig Chawla
Project Manager

STAT Analysis Corporation

Date: October 22, 2009

Client: Weston Solutions
Project: 20405.016.001.0763.00, Bautech-Gray, Galena, IL
Lab Order: 09100274

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
09100274-001A	BG-S2-100709		10/7/2009	10/8/2009
09100274-002A	BG-S8-100709		10/7/2009	10/8/2009
09100274-003A	BG-S19-100709		10/7/2009	10/8/2009
09100274-004A	BG-S24-100709		10/7/2009	10/8/2009
09100274-005A	BG-S27-100709		10/7/2009	10/8/2009
09100274-006A	BG-S36-100709		10/7/2009	10/8/2009
09100274-007A	BG-S40-100709		10/7/2009	10/8/2009
09100274-008A	BG-S42-100709		10/7/2009	10/8/2009
09100274-009A	BG-S43-100709		10/7/2009	10/8/2009
09100274-010A	BG-S46-100709		10/7/2009	10/8/2009
09100274-011A	BG-S56-100709		10/7/2009	10/8/2009
09100274-012A	BG-S110-100709		10/7/2009	10/8/2009
09100274-013A	BG-S115-100709		10/7/2009	10/8/2009
09100274-014A	BG-S119-100709		10/7/2009	10/8/2009
09100274-015A	BG-S120-100709		10/7/2009	10/8/2009
09100274-016A	BG-S124-100709		10/7/2009	10/8/2009
09100274-017A	BG-S131-100709		10/7/2009	10/8/2009
09100274-018A	BG-S145-100709		10/7/2009	10/8/2009
09100274-019A	BG-S146-100709		10/7/2009	10/8/2009
09100274-020A	BG-S162-100709		10/7/2009	10/8/2009
09100274-021A	BG-S166-100709		10/7/2009	10/8/2009
09100274-022A	BG-S167-100709		10/7/2009	10/8/2009
09100274-023A	BG-S168-100709		10/7/2009	10/8/2009
09100274-024A	BG-S169-100709		10/7/2009	10/8/2009
09100274-025A	BG-S170-100709		10/7/2009	10/8/2009
09100274-026A	BG-S172-100709		10/7/2009	10/8/2009
09100274-027A	BG-S173-100709		10/7/2009	10/8/2009
09100274-028A	BG-S175-100709		10/7/2009	10/8/2009
09100274-029A	BG-S176-100709		10/7/2009	10/8/2009
09100274-030A	BG-S179-100709		10/7/2009	10/8/2009
09100274-031A	BG-S181-100709		10/7/2009	10/8/2009
09100274-032A	BG-S183-100709		10/7/2009	10/8/2009
09100274-033A	BG-S42-100709-D		10/7/2009	10/8/2009
09100274-034A	BG-S40-100709-D		10/7/2009	10/8/2009
09100274-035A	BG-S169-100709-D		10/7/2009	10/8/2009
09100274-036A	BG-S110-100709-D		10/7/2009	10/8/2009

STAT Analysis Corporation **Date:** *October 22, 2009*

CLIENT: Weston Solutions
Project: 20405.016.001.0763.00, Bautech-Gray, Galena, IL
Lab Order: 09100274

CASE NARRATIVE

The metals MS/MSD prepared from sample BG-S110-100709 (09100274-012) had Zinc recovery outside control limits (-452%/3250% recovery, QC limits 75-125); 21.5% RPD, QC limit < 20%). The sample concentration is greater than four times the spike level used. The MS/MSD had recovery of other analytes outside of control limits, however the analyte concentration in the sample was greater than four times the spike level for those elements.

The metals MS/MSD prepared from sample BG-S115-100709 (09100274-013) had Lead recovery outside control limits (280%/-109% recovery, QC limits 75-125%). The sample concentration is greater than four times the spike level used. The MS/MSD had recovery of other analytes outside of control limits, however the analyte concentration in the sample was greater than four times the spike level for those elements.

STAT Analysis Corporation

Analytical Results

Client: Weston Solutions
Project: 20405.016.001.0763.00, Bautech-Gray, Galena, IL
Lab Order: 09100274
Date Received: October 8, 2009

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S2-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-001A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Mercury	**SW1311/7470A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.00025		mg/L	1	10/12/2009
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.033	0.026		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	20	1		mg/Kg-dry	10	10/10/2009
Barium	18	1		mg/Kg-dry	10	10/10/2009
Cadmium	14	0.5		mg/Kg-dry	10	10/10/2009
Chromium	1.9	1		mg/Kg-dry	10	10/10/2009
Copper	7.3	2.5		mg/Kg-dry	10	10/12/2009
Lead	2100	0.5		mg/Kg-dry	10	10/10/2009
Selenium	ND	1		mg/Kg-dry	10	10/10/2009
Silver	ND	1		mg/Kg-dry	10	10/10/2009
Zinc	5700	100		mg/Kg-dry	200	10/12/2009
TCLP Metals by ICP/MS	**SW1311/6020 (SW3005A)**			Prep Date: **10/12/2009**		Analyst: **JG**
Arsenic	ND	0.01		mg/L	5	10/12/2009
Barium	0.082	0.05		mg/L	5	10/12/2009
Cadmium	0.049	0.005		mg/L	5	10/12/2009
Chromium	ND	0.01		mg/L	5	10/12/2009
Copper	ND	0.1		mg/L	5	10/12/2009
Lead	7.9	0.005		mg/L	5	10/12/2009
Selenium	ND	0.01		mg/L	5	10/12/2009
Silver	ND	0.01		mg/L	5	10/12/2009
Zinc	24	1		mg/L	100	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.5			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	7.6	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S8-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-002A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Mercury	**SW1311/7470A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.00025		mg/L	1	10/12/2009
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.027		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	23	1		mg/Kg-dry	10	10/10/2009
Barium	20	1		mg/Kg-dry	10	10/10/2009
Cadmium	18	0.52		mg/Kg-dry	10	10/10/2009
Chromium	4.2	1		mg/Kg-dry	10	10/10/2009
Copper	14	2.6		mg/Kg-dry	10	10/12/2009
Lead	1500	0.52		mg/Kg-dry	10	10/10/2009
Selenium	ND	1		mg/Kg-dry	10	10/10/2009
Silver	ND	1		mg/Kg-dry	10	10/10/2009
Zinc	12000	520		mg/Kg-dry	1000	10/12/2009
TCLP Metals by ICP/MS	**SW1311/6020 (SW3005A)**			Prep Date: **10/12/2009**		Analyst: **JG**
Arsenic	ND	0.01		mg/L	5	10/12/2009
Barium	0.18	0.05		mg/L	5	10/12/2009
Cadmium	0.022	0.005		mg/L	5	10/12/2009
Chromium	ND	0.01		mg/L	5	10/12/2009
Copper	ND	0.1		mg/L	5	10/12/2009
Lead	2.4	0.005		mg/L	5	10/12/2009
Selenium	ND	0.01		mg/L	5	10/12/2009
Silver	ND	0.01		mg/L	5	10/12/2009
Zinc	7.1	0.1		mg/L	10	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.3			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	5.8	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S19-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-003A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Mercury	**SW1311/7470A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.00025		mg/L	1	10/12/2009
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.034	0.03		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	45	1.1		mg/Kg-dry	10	10/10/2009
Barium	22	1.1		mg/Kg-dry	10	10/10/2009
Cadmium	22	0.54		mg/Kg-dry	10	10/10/2009
Chromium	4.2	1.1		mg/Kg-dry	10	10/10/2009
Copper	120	2.7		mg/Kg-dry	10	10/10/2009
Lead	2100	0.54		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.1		mg/Kg-dry	10	10/10/2009
Silver	ND	1.1		mg/Kg-dry	10	10/10/2009
Zinc	9100	540		mg/Kg-dry	1000	10/12/2009
TCLP Metals by ICP/MS	**SW1311/6020 (SW3005A)**			Prep Date: **10/12/2009**		Analyst: **JG**
Arsenic	ND	0.01		mg/L	5	10/12/2009
Barium	0.11	0.05		mg/L	5	10/12/2009
Cadmium	0.093	0.005		mg/L	5	10/12/2009
Chromium	ND	0.01		mg/L	5	10/12/2009
Copper	ND	0.1		mg/L	5	10/12/2009
Lead	11	0.005		mg/L	5	10/12/2009
Selenium	ND	0.01		mg/L	5	10/12/2009
Silver	ND	0.01		mg/L	5	10/12/2009
Zinc	27	1		mg/L	100	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.4			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	18.8	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S24-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-004A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Mercury	**SW1311/7470A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.00025		mg/L	1	10/12/2009
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.09	0.029		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	56	1.2		mg/Kg-dry	10	10/10/2009
Barium	39	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	120	0.59		mg/Kg-dry	10	10/10/2009
Chromium	5.3	1.2		mg/Kg-dry	10	10/10/2009
Copper	43	3		mg/Kg-dry	10	10/10/2009
Lead	7200	12		mg/Kg-dry	200	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	3.2	1.2		mg/Kg-dry	10	10/10/2009
Zinc	68000	1200		mg/Kg-dry	2000	10/16/2009
TCLP Metals by ICP/MS	**SW1311/6020 (SW3005A)**			Prep Date: **10/12/2009**		Analyst: **JG**
Arsenic	ND	0.01		mg/L	5	10/12/2009
Barium	0.38	0.05		mg/L	5	10/12/2009
Cadmium	0.33	0.005		mg/L	5	10/12/2009
Chromium	ND	0.01		mg/L	5	10/12/2009
Copper	ND	0.1		mg/L	5	10/12/2009
Lead	29	0.005		mg/L	5	10/12/2009
Selenium	ND	0.01		mg/L	5	10/12/2009
Silver	ND	0.01		mg/L	5	10/12/2009
Zinc	210	5		mg/L	500	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.3			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	19.7	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S27-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-005A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.032		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	5.9	1.4		mg/Kg-dry	10	10/10/2009
Barium	120	1.4		mg/Kg-dry	10	10/10/2009
Cadmium	ND	0.7		mg/Kg-dry	10	10/10/2009
Chromium	13	1.4		mg/Kg-dry	10	10/10/2009
Copper	13	3.5		mg/Kg-dry	10	10/10/2009
Lead	120	0.7		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.4		mg/Kg-dry	10	10/10/2009
Silver	ND	1.4		mg/Kg-dry	10	10/10/2009
Zinc	320	70		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.2			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	28.8	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S36-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-006A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.062	0.037		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	64	1.4		mg/Kg-dry	10	10/10/2009
Barium	32	1.4		mg/Kg-dry	10	10/10/2009
Cadmium	12	0.69		mg/Kg-dry	10	10/10/2009
Chromium	2.1	1.4		mg/Kg-dry	10	10/10/2009
Copper	51	3.5		mg/Kg-dry	10	10/10/2009
Lead	490	0.69		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.4		mg/Kg-dry	10	10/10/2009
Silver	ND	1.4		mg/Kg-dry	10	10/10/2009
Zinc	4300	69		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.2			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	37.7	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S40-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-007A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.029		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	51	1.1		mg/Kg-dry	10	10/10/2009
Barium	9.3	1.1		mg/Kg-dry	10	10/10/2009
Cadmium	11	0.56		mg/Kg-dry	10	10/10/2009
Chromium	1.4	1.1		mg/Kg-dry	10	10/10/2009
Copper	42	2.8		mg/Kg-dry	10	10/10/2009
Lead	790	0.56		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.1		mg/Kg-dry	10	10/10/2009
Silver	ND	1.1		mg/Kg-dry	10	10/10/2009
Zinc	4100	110		mg/Kg-dry	200	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.4			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	14.4	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S42-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-008A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.036	0.032		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	10	1.3		mg/Kg-dry	10	10/10/2009
Barium	470	1.3		mg/Kg-dry	10	10/10/2009
Cadmium	1.7	0.65		mg/Kg-dry	10	10/10/2009
Chromium	21	1.3		mg/Kg-dry	10	10/10/2009
Copper	21	3.2		mg/Kg-dry	10	10/10/2009
Lead	87	0.65		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.3		mg/Kg-dry	10	10/10/2009
Silver	ND	1.3		mg/Kg-dry	10	10/10/2009
Zinc	580	65		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.2			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	23.9	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S43-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-009A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.046	0.039		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	6.4	1.6		mg/Kg-dry	10	10/10/2009
Barium	150	1.6		mg/Kg-dry	10	10/10/2009
Cadmium	ND	0.78		mg/Kg-dry	10	10/10/2009
Chromium	19	1.6		mg/Kg-dry	10	10/10/2009
Copper	19	3.9		mg/Kg-dry	10	10/10/2009
Lead	52	0.78		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.6		mg/Kg-dry	10	10/10/2009
Silver	ND	1.6		mg/Kg-dry	10	10/10/2009
Zinc	320	78		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	6.6			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	38.6	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S46-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-010A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.027		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	43	1		mg/Kg-dry	10	10/10/2009
Barium	8.5	1		mg/Kg-dry	10	10/10/2009
Cadmium	16	0.52		mg/Kg-dry	10	10/10/2009
Chromium	1.4	1		mg/Kg-dry	10	10/10/2009
Copper	33	2.6		mg/Kg-dry	10	10/10/2009
Lead	980	0.52		mg/Kg-dry	10	10/10/2009
Selenium	ND	1		mg/Kg-dry	10	10/10/2009
Silver	ND	1		mg/Kg-dry	10	10/10/2009
Zinc	5900	100		mg/Kg-dry	200	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.2			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	6.8	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S56-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-011A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.041	0.028		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	23	1		mg/Kg-dry	10	10/10/2009
Barium	20	1		mg/Kg-dry	10	10/10/2009
Cadmium	200	0.52		mg/Kg-dry	10	10/10/2009
Chromium	3.7	1		mg/Kg-dry	10	10/10/2009
Copper	12	2.6		mg/Kg-dry	10	10/10/2009
Lead	1000	0.52		mg/Kg-dry	10	10/10/2009
Selenium	ND	1		mg/Kg-dry	10	10/10/2009
Silver	11	1		mg/Kg-dry	10	10/10/2009
Zinc	72000	1000		mg/Kg-dry	2000	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/10/2009**		Analyst: **JMS**
pH	7.5			pH Units	1	10/10/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	11.9	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S110-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-012A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.026		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	39	1		mg/Kg-dry	10	10/10/2009
Barium	10	1		mg/Kg-dry	10	10/10/2009
Cadmium	11	0.52		mg/Kg-dry	10	10/10/2009
Chromium	1.3	1		mg/Kg-dry	10	10/10/2009
Copper	27	2.6		mg/Kg-dry	10	10/10/2009
Lead	830	0.52		mg/Kg-dry	10	10/10/2009
Selenium	ND	1		mg/Kg-dry	10	10/10/2009
Silver	ND	1		mg/Kg-dry	10	10/10/2009
Zinc	4100	100		mg/Kg-dry	200	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.3			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	6.3	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S115-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-013A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.027	0.027		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	49	1		mg/Kg-dry	10	10/10/2009
Barium	12	1		mg/Kg-dry	10	10/10/2009
Cadmium	14	0.52		mg/Kg-dry	10	10/10/2009
Chromium	1.9	1		mg/Kg-dry	10	10/10/2009
Copper	58	2.6		mg/Kg-dry	10	10/10/2009
Lead	1400	0.52		mg/Kg-dry	10	10/10/2009
Selenium	ND	1		mg/Kg-dry	10	10/10/2009
Silver	ND	1		mg/Kg-dry	10	10/10/2009
Zinc	6300	100		mg/Kg-dry	200	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.4			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	11.9	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S119-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-014A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Mercury	**SW1311/7470A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.00025		mg/L	1	10/12/2009
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.041	0.025		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	41	0.95		mg/Kg-dry	10	10/10/2009
Barium	17	0.95		mg/Kg-dry	10	10/10/2009
Cadmium	18	0.47		mg/Kg-dry	10	10/10/2009
Chromium	3.4	0.95		mg/Kg-dry	10	10/10/2009
Copper	100	2.4		mg/Kg-dry	10	10/10/2009
Lead	1900	0.47		mg/Kg-dry	10	10/10/2009
Selenium	ND	0.95		mg/Kg-dry	10	10/10/2009
Silver	ND	0.95		mg/Kg-dry	10	10/10/2009
Zinc	7900	470		mg/Kg-dry	1000	10/12/2009
TCLP Metals by ICP/MS	**SW1311/6020 (SW3005A)**			Prep Date: **10/12/2009**		Analyst: **JG**
Arsenic	ND	0.01		mg/L	5	10/12/2009
Barium	ND	0.05		mg/L	5	10/12/2009
Cadmium	0.28	0.005		mg/L	5	10/12/2009
Chromium	ND	0.01		mg/L	5	10/12/2009
Copper	0.26	0.1		mg/L	5	10/12/2009
Lead	4.3	0.005		mg/L	5	10/12/2009
Selenium	ND	0.01		mg/L	5	10/12/2009
Silver	ND	0.01		mg/L	5	10/12/2009
Zinc	120	5		mg/L	500	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.0			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	7.2	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S120-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-015A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.057	0.032		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	63	1.2		mg/Kg-dry	10	10/10/2009
Barium	31	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	28	0.58		mg/Kg-dry	10	10/10/2009
Chromium	4.7	1.2		mg/Kg-dry	10	10/10/2009
Copper	160	2.9		mg/Kg-dry	10	10/10/2009
Lead	4000	0.58		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	13000	290		mg/Kg-dry	500	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.2			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	25.2	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S124-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-016A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.057	0.037		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	9.9	1.4		mg/Kg-dry	10	10/10/2009
Barium	190	1.4		mg/Kg-dry	10	10/10/2009
Cadmium	2.3	0.68		mg/Kg-dry	10	10/10/2009
Chromium	21	1.4		mg/Kg-dry	10	10/10/2009
Copper	22	3.4		mg/Kg-dry	10	10/10/2009
Lead	240	0.68		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.4		mg/Kg-dry	10	10/10/2009
Silver	ND	1.4		mg/Kg-dry	10	10/10/2009
Zinc	980	68		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.1			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	32.3	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S131-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-017A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.048	0.035		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	14	1.4		mg/Kg-dry	10	10/10/2009
Barium	220	1.4		mg/Kg-dry	10	10/10/2009
Cadmium	4.1	0.68		mg/Kg-dry	10	10/10/2009
Chromium	17	1.4		mg/Kg-dry	10	10/10/2009
Copper	31	3.4		mg/Kg-dry	10	10/10/2009
Lead	510	0.68		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.4		mg/Kg-dry	10	10/10/2009
Silver	ND	1.4		mg/Kg-dry	10	10/10/2009
Zinc	1700	68		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.6			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	28.1	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S145-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-018A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.032		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	11	1.3		mg/Kg-dry	10	10/10/2009
Barium	150	1.3		mg/Kg-dry	10	10/10/2009
Cadmium	ND	0.64		mg/Kg-dry	10	10/10/2009
Chromium	19	1.3		mg/Kg-dry	10	10/10/2009
Copper	20	3.2		mg/Kg-dry	10	10/10/2009
Lead	140	0.64		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.3		mg/Kg-dry	10	10/10/2009
Silver	ND	1.3		mg/Kg-dry	10	10/10/2009
Zinc	610	64		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.4			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	24.2	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S146-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-019A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.031		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	12	1.2		mg/Kg-dry	10	10/10/2009
Barium	120	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	2.1	0.61		mg/Kg-dry	10	10/10/2009
Chromium	18	1.2		mg/Kg-dry	10	10/10/2009
Copper	23	3		mg/Kg-dry	10	10/10/2009
Lead	210	0.61		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	1000	61		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.1			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	20.6	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S162-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-020A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.031		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	44	1.2		mg/Kg-dry	10	10/10/2009
Barium	14	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	12	0.59		mg/Kg-dry	10	10/10/2009
Chromium	2.1	1.2		mg/Kg-dry	10	10/10/2009
Copper	51	2.9		mg/Kg-dry	10	10/10/2009
Lead	1100	0.59		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	4300	59		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.0			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	22.4	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S166-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-021A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.18	0.037		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	24	1.3		mg/Kg-dry	10	10/10/2009
Barium	160	1.3		mg/Kg-dry	10	10/10/2009
Cadmium	5.7	0.66		mg/Kg-dry	10	10/10/2009
Chromium	6.5	1.3		mg/Kg-dry	10	10/10/2009
Copper	26	3.3		mg/Kg-dry	10	10/10/2009
Lead	1300	0.66		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.3		mg/Kg-dry	10	10/10/2009
Silver	ND	1.3		mg/Kg-dry	10	10/10/2009
Zinc	3000	66		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.2			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	35.6	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S167-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-022A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.027	0.027		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	66	0.93		mg/Kg-dry	10	10/10/2009
Barium	11	0.93		mg/Kg-dry	10	10/10/2009
Cadmium	14	0.46		mg/Kg-dry	10	10/10/2009
Chromium	1.9	0.93		mg/Kg-dry	10	10/10/2009
Copper	58	2.3		mg/Kg-dry	10	10/10/2009
Lead	1100	0.46		mg/Kg-dry	10	10/10/2009
Selenium	ND	0.93		mg/Kg-dry	10	10/10/2009
Silver	ND	0.93		mg/Kg-dry	10	10/10/2009
Zinc	4700	93		mg/Kg-dry	200	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.0			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	11.6	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S168-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-023A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.051	0.035		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	18	1.2		mg/Kg-dry	10	10/10/2009
Barium	120	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	9.1	0.6		mg/Kg-dry	10	10/10/2009
Chromium	12	1.2		mg/Kg-dry	10	10/10/2009
Copper	31	3		mg/Kg-dry	10	10/10/2009
Lead	930	0.6		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	3600	60		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.4			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	28.6	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S169-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-024A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.067	0.033		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	25	1.2		mg/Kg-dry	10	10/10/2009
Barium	120	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	8.4	0.59		mg/Kg-dry	10	10/10/2009
Chromium	11	1.2		mg/Kg-dry	10	10/10/2009
Copper	25	2.9		mg/Kg-dry	10	10/10/2009
Lead	580	0.59		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	3800	59		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	6.7			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	26.9	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S170-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-025A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.025		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	50	1		mg/Kg-dry	10	10/10/2009
Barium	13	1		mg/Kg-dry	10	10/10/2009
Cadmium	12	0.52		mg/Kg-dry	10	10/10/2009
Chromium	1.9	1		mg/Kg-dry	10	10/10/2009
Copper	38	2.6		mg/Kg-dry	10	10/10/2009
Lead	1300	0.52		mg/Kg-dry	10	10/10/2009
Selenium	ND	1		mg/Kg-dry	10	10/10/2009
Silver	ND	1		mg/Kg-dry	10	10/10/2009
Zinc	4300	100		mg/Kg-dry	200	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.7			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	9.2	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S172-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-026A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.029		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	4.4	1.2		mg/Kg-dry	10	10/10/2009
Barium	190	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	ND	0.59		mg/Kg-dry	10	10/10/2009
Chromium	16	1.2		mg/Kg-dry	10	10/10/2009
Copper	13	3		mg/Kg-dry	10	10/10/2009
Lead	23	0.59		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	81	59		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.6			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	18.3	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S173-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-027A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.03		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	3.9	1.1		mg/Kg-dry	10	10/10/2009
Barium	190	1.1		mg/Kg-dry	10	10/10/2009
Cadmium	ND	0.56		mg/Kg-dry	10	10/10/2009
Chromium	15	1.1		mg/Kg-dry	10	10/10/2009
Copper	13	2.8		mg/Kg-dry	10	10/10/2009
Lead	26	0.56		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.1		mg/Kg-dry	10	10/10/2009
Silver	ND	1.1		mg/Kg-dry	10	10/10/2009
Zinc	83	56		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.5			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	22.2	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S175-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-028A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.056	0.028		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	15	1.1		mg/Kg-dry	10	10/10/2009
Barium	260	1.1		mg/Kg-dry	10	10/10/2009
Cadmium	4	0.57		mg/Kg-dry	10	10/10/2009
Chromium	12	1.1		mg/Kg-dry	10	10/10/2009
Copper	15	2.9		mg/Kg-dry	10	10/10/2009
Lead	850	0.57		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.1		mg/Kg-dry	10	10/10/2009
Silver	ND	1.1		mg/Kg-dry	10	10/10/2009
Zinc	1600	57		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.4			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	18.0	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J.- Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S176-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-029A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.053	0.032		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	15	1.2		mg/Kg-dry	10	10/10/2009
Barium	200	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	15	0.59		mg/Kg-dry	10	10/10/2009
Chromium	12	1.2		mg/Kg-dry	10	10/10/2009
Copper	15	2.9		mg/Kg-dry	10	10/10/2009
Lead	360	0.59		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	5300	120		mg/Kg-dry	200	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/12/2009**		Analyst: **RW**
pH	7.2			pH Units	1	10/12/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	22.0	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S179-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-030A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.055	0.031		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	11	1.2		mg/Kg-dry	10	10/10/2009
Barium	210	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	1.5	0.62		mg/Kg-dry	10	10/10/2009
Chromium	29	1.2		mg/Kg-dry	10	10/10/2009
Copper	28	3.1		mg/Kg-dry	10	10/10/2009
Lead	150	0.62		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	650	62		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/13/2009**		Analyst: **JMS**
pH	7.2			pH Units	1	10/13/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	22.2	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S181-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-031A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.033	0.033		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	6.4	1.3		mg/Kg-dry	10	10/10/2009
Barium	110	1.3		mg/Kg-dry	10	10/10/2009
Cadmium	ND	0.65		mg/Kg-dry	10	10/10/2009
Chromium	16	1.3		mg/Kg-dry	10	10/10/2009
Copper	17	3.2		mg/Kg-dry	10	10/10/2009
Lead	140	0.65		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.3		mg/Kg-dry	10	10/10/2009
Silver	ND	1.3		mg/Kg-dry	10	10/10/2009
Zinc	600	65		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/13/2009**		Analyst: **JMS**
pH	7.0			pH Units	1	10/13/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	25.2	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S183-100709
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-032A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.033		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	7.5	1.4		mg/Kg-dry	10	10/10/2009
Barium	210	1.4		mg/Kg-dry	10	10/10/2009
Cadmium	ND	0.69		mg/Kg-dry	10	10/10/2009
Chromium	20	1.4		mg/Kg-dry	10	10/10/2009
Copper	20	3.4		mg/Kg-dry	10	10/10/2009
Lead	110	0.69		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.4		mg/Kg-dry	10	10/10/2009
Silver	ND	1.4		mg/Kg-dry	10	10/10/2009
Zinc	450	6.9		mg/Kg-dry	10	10/10/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/13/2009**		Analyst: **JMS**
pH	7.0			pH Units	1	10/13/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	27.4	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S42-100709-D
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-033A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.033		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	9.6	1.2		mg/Kg-dry	10	10/10/2009
Barium	260	1.2		mg/Kg-dry	10	10/10/2009
Cadmium	ND	0.62		mg/Kg-dry	10	10/10/2009
Chromium	21	1.2		mg/Kg-dry	10	10/10/2009
Copper	18	3.1		mg/Kg-dry	10	10/10/2009
Lead	100	0.62		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.2		mg/Kg-dry	10	10/10/2009
Silver	ND	1.2		mg/Kg-dry	10	10/10/2009
Zinc	570	62		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/13/2009**		Analyst: **JMS**
pH	7.0			pH Units	1	10/13/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	23.8	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S40-100709-D
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-034A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.029		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	46	1		mg/Kg-dry	10	10/10/2009
Barium	7.6	1		mg/Kg-dry	10	10/10/2009
Cadmium	9.9	0.51		mg/Kg-dry	10	10/10/2009
Chromium	1.3	1		mg/Kg-dry	10	10/10/2009
Copper	33	2.6		mg/Kg-dry	10	10/10/2009
Lead	910	0.51		mg/Kg-dry	10	10/10/2009
Selenium	ND	1		mg/Kg-dry	10	10/10/2009
Silver	ND	1		mg/Kg-dry	10	10/10/2009
Zinc	3600	51		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/13/2009**		Analyst: **JMS**
pH	7.1			pH Units	1	10/13/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	13.5	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S169-100709-D
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-035A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	0.076	0.031		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	16	1.3		mg/Kg-dry	10	10/10/2009
Barium	170	1.3		mg/Kg-dry	10	10/10/2009
Cadmium	11	0.63		mg/Kg-dry	10	10/10/2009
Chromium	13	1.3		mg/Kg-dry	10	10/10/2009
Copper	30	3.2		mg/Kg-dry	10	10/10/2009
Lead	580	0.63		mg/Kg-dry	10	10/10/2009
Selenium	ND	1.3		mg/Kg-dry	10	10/10/2009
Silver	ND	1.3		mg/Kg-dry	10	10/10/2009
Zinc	5300	130		mg/Kg-dry	200	10/16/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/13/2009**		Analyst: **JMS**
pH	6.7			pH Units	1	10/13/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	22.3	0.2	*	wt%	1	10/15/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: October 22, 2009
Print Date: October 22, 2009

Client:	Weston Solutions	**Client Sample ID:**	BG-S110-100709-D
Lab Order:	09100274	**Tag Number:**	
Project:	20405.016.001.0763.00, Bautech-Gray, Galena, IL	**Collection Date:**	10/7/2009
Lab ID:	09100274-036A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **10/12/2009**		Analyst: **VA**
Mercury	ND	0.026		mg/Kg-dry	1	10/13/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **10/9/2009**		Analyst: **JG**
Arsenic	50	0.91		mg/Kg-dry	10	10/10/2009
Barium	11	0.91		mg/Kg-dry	10	10/10/2009
Cadmium	11	0.46		mg/Kg-dry	10	10/10/2009
Chromium	1.7	0.91		mg/Kg-dry	10	10/10/2009
Copper	30	2.3		mg/Kg-dry	10	10/10/2009
Lead	940	0.46		mg/Kg-dry	10	10/10/2009
Selenium	ND	0.91		mg/Kg-dry	10	10/10/2009
Silver	ND	0.91		mg/Kg-dry	10	10/10/2009
Zinc	3400	46		mg/Kg-dry	100	10/12/2009
pH (25 °C)	**SW9045C**			Prep Date: **10/13/2009**		Analyst: **JMS**
pH	7.4			pH Units	1	10/13/2009
Percent Moisture	**D2974**			Prep Date: **10/14/2009**		Analyst: **JP**
Percent Moisture	5.2	0.2	*	wt%	1	10/15/2009

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

STAT Analysis Corporation
2242 W. Harrison, Suite 200, Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

Nº: 827727 Page: 1 of 2

Company: Weston Solutions
Project Number: 20405.01C.001.0703.00 Client Tracking No.:
Project Name: Baetsch-Gray
Project Location: Galena, IL
Sampler(s): JB/JC
Report To: Lisa Graczyk Phone: 312-424-3339
Fax:
QC Level: 1 2 3 4 X e-mail: lgraczyk@dynamac.com

P.O. No.:
Quote No.:

Turn Around
Results Needed
am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Total PCBs 60103/60120/7471A	PH 9045D	TCLP Metals 1311/6010B/6020/7471A	Remarks	Lab No.:
BG-S2-100709	10/07/09		Soil	X		A	2	X	X	X		001
BG-S8-100709	10/07		"	X		A	2	X		X		002
BG-S19-100709	10/07		"	X		A	2	X		X		003
BG-S24-100709	10/07		"	X		A	2	X		X		004
BG-S27-100709	10/07		"	X		A	1	X		X		005
BG-S36-100709	10/07		"	X		A	1	X		X		006
BG-S40-100709	10/07		"	X		A	1	X		X		007
BG-S42-100709	10/07		"	X		A	1	X		X		008
BG-S43-100709	10/07		"	X		A	1	X		X		009
BG-S46-100709	10/07		"	X		A	1	X		X		010
BG-S56-100709	10/07		"	X		A	1	X		X		011
BG-S110-100709	10/07		"	X		A	1	X		X		012
BG-S115-100709	10/07		"	X		A	1	X		X		013
BG-S119-100709	10/07		"	X		A	2	X		X	X	014
BG-S120-100709	10/07		"	X		A	1	X		X		015
BG-S124-100709	10/07		"	X		A	1	X		X		016
BG-S131-100709	10/07		"	X		A	1	X		X		017
BG-S145-100709	10/07		"	X		A	1	X		X		018
BG-S146-100709	10/07		"	X		A	1	X		X		019
BG-S162-100709	10/07		"	X		A	1	X		X		020

Relinquished by: (Signature) Date/Time: 10/08/09 1240
Received by: (Signature) Date/Time: 10/8/09 1240
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments:

Preservation Code: A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 0900274

Received on Ice: Yes ☑ No ☐
Temperature: 3.7 °C

STAT Analysis Corporation
2242 W. Harrison, Suite 200, Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

Nº: 827726 Page: 2 of 2

Company: Weston Solutions
Project Number: 20405.018.001.0768.06 Client Tracking No.:
Project Name: Bautsch-Gray Mini Site Assessment
Project Location: Galena IL
Sampler(s): Jeff Brynierski / Jon Colomb
Report To: Lisa Graczyk Phone: 312-424-3339
Fax:
QC Level: 1 2 3 4 X e-mail: lgraczyk@dynamac.com

P.O. No.:
Quote No.:

Turn Around
Results Needed / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Total RCRA Metals + Copper + Zinc 6010B/7470A	6020	pH 9045D	Remarks	Lab No.:
BG-S166-100709	10/07/09		Soil	X		A	1	X		X		021
BG-S167-100709	10/07/09		"	X		A	1	X		X		022
BG-S168-100709	10/07/09		"	X		A	1	X		X		023
BG-S169-100709	10/07/09		"	X		A	1	X		X		024
BG-S170-100709	10/07/09		"	X		A	1	X		X		025
BG-S172-100709	10/07/09		"	X		A	1	X		X		026
BG-S173-100709	10/07/09		"	X		A	1	X		X		027
BG-S175-100709	10/07/09		"	X		A	1	X		X		028
BG-S176-100709	10/07/09		"	X		A	1	X		X		029
BG-S179-100709	10/07/09		"	X		A	1	X		X		030
BG-S181-100709	10/07/09		"	X		A	1	X		X		031
BG-S183-100709	10/07/09		"	X		A	1	X		X		032
BG-S42-100709-D	10/07/09		"	X		A	1	X		X		033
BG-S40-100709-D	10/07/09		"	X		A	1	X		X		034
BG-S169-100709-D	10/07/09		"	X		A	1	X		X		035

Relinquished by: (Signature)	Date/Time: 10/08/09 1240
Received by: (Signature)	Date/Time: 10/8/09 1240
Relinquished by: (Signature)	Date/Time:
Received by: (Signature)	Date/Time:
Relinquished by: (Signature)	Date/Time:
Received by: (Signature)	Date/Time:

Comments:

Laboratory Work Order No.: 0910027A

Received on Ice: Yes X No

Temperature: 3.7 °C

Preservation Code: A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

BAUTSCH GREY MINE SITE
GALENA, ILLINOIS
DATA VALIDATION REPORT

Date: November 10, 2009
Laboratory: TestAmerica Laboratories, Inc. (TestAmerica), University Park, Illinois
Laboratory Project #: 500-21700-1
Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (Weston) Superfund Technical Assessment and Response Team (START)
Weston Analytical TDD/Work Order #: S05-0001-0909-012/20405.016.001.0768.00

This data validation report has been prepared by Weston START under the START III Region V contract. This report documents the data validation for five water samples (plus one trip blank) collected for the Bautsch Grey Mind Site that were analyzed for the following parameters and methods:

- Volatile Organic Compounds (VOC) by U.S. Environmental Protection Agency (U.S. EPA) SW-846 Method 8260B
- Semivolatile Organic Compounds (SVOC) by U.S. EPA SW-846 Method 8270C
- Total Metals by U.S. EPA SW-846 Methods 6020 and 7470A
- pH by U.S. EPA SW-846 Method 9040B

A level IV data package was requested from TestAmerica. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review" dated June 2008 and "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated October 2004. The Attachment contains the results summary sheets with hand-written data qualifiers.

Data Validation Report
Bautsch Grey Mine Site
TestAmerica Laboratories, Inc.
Laboratory Project #: 500-21700-1

VOCs BY METHOD 8260B

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
BG-RW01-100609	500-21700-1	Water	10/6/2009	10/14/2009
BG-RW02-100609	500-21700-2	Water	10/6/2009	10/14/2009
BG-RW02-100609	500-21700-3	Water	10/6/2009	10/14/2009
BG-SW01-100709	500-21700-4	Water	10/7/2009	10/14/2009
BG-SW02-100709	500-21700-5	Water	10/7/2009	10/14/2009
TRIP BLANK	500-21700-6	Water	10/6/2009	10/14/2009

2. Holding Times

The samples were analyzed within the required holding time limit of 14 days from sample collection.

3. Gas Chromatograph/Mass Spectrometer (GC/MS) Instrument Performance Check

The instrument performance check using bromofluorobenzene (BFB) was performed and met the ion abundance criteria specified in method 8260B.

4. Calibration Results

For the initial calibration, the percent relative standard deviations (%RSD) for target compounds were less than 30.

The percent differences in the continuing calibration standard for target compounds were within the control limit of less than or equal to 25 percent except for as follows.

In the continuing calibration, bromomethane was outside the QC limit. The quantitation limits for the non-detected bromomethane results were flagged "UJ" as estimated.

5. Blanks

A method blank was analyzed with the samples and was free of target compound contamination above the reporting limit. The trip blank was also free of target compound contamination above the reporting limit.

6. Surrogate Recoveries

The surrogate recoveries were within the laboratory-established QC limits.

7. LCS Results

The LCS recoveries were within the laboratory-established QC limits.

8. Field Duplicate Results

Both the field duplicate and parent investigative sample contained no detections of target VOC analytes indicating good correlation.

9. Internal Standard Results

The internal standard area counts were within -50 percent to +100 percent of the area counts in the associated continuing calibration standard. The retention time of the internal standards did not vary more than ±30 seconds from the retention time of the associated continuing calibration standard.

10. Overall Assessment

The VOC data are acceptable for use based on the information received.

Note that extra volumes for matrix spike (MS) and matrix spikes duplicate (MSD) were not provided to the laboratory and therefore, the laboratory did not analyze a site-specific MS/MSD with the analysis. In addition, it was confirmed that target analytes were not detected in the samples (except for acetone in sample BG-SW01-100709).

Data Validation Report
Bautsch Grey Mine Site
TestAmerica Laboratories, Inc.
Laboratory Project #: 500-21700-1

SVOCs BY METHOD 8270C

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
BG-RW01-100609	500-21700-1	Water	10/6/2009	10/12/2009	10/13/2009
BG-RW02-100609	500-21700-2	Water	10/6/2009	10/12/2009	10/13/2009
BG-RW02-100609	500-21700-3	Water	10/6/2009	10/12/2009	10/13/2009
BG-SW01-100709	500-21700-4	Water	10/7/2009	10/12/2009	10/13/2009
BG-SW02-100709	500-21700-5	Water	10/7/2009	10/12/2009	10/13/2009

2. Holding Times

The samples were analyzed within the required holding time limit of 7 days from sample collection to extraction and 40 days from extraction to analysis for water samples.

3. Instrument Performance Check

The instrument performance check using decafluorotriphenylphosphine (DFTPP) met the ion abundance criteria specified in method 8270C.

4. Calibration Results

The initial calibration had acceptable results. The %RSD for all detected compounds were less than 30 and the average relative response factors were all greater than 0.05.

The %Ds in the CCV were within the QC limit of less than or equal to 20 percent for target compounds.

5. Blanks

Method blanks were analyzed with the samples and were free of target compound contamination above the reporting limit.

6. Surrogates Results

The surrogate spike recoveries were within the laboratory-established QC limits.

7. **LCS Results**

The LCS recoveries were within the laboratory-established QC limits.

8. **Field Duplicate Results**

Both the field duplicate and parent investigative sample contained no detections of target SVOC analytes indicating good correlation.

9. **Internal Standard Results**

The internal standard area counts were within -50 percent to +100 percent of the area counts in the associated continuing calibration standard. The retention time of the internal standards did not vary more than ±30 seconds from the retention time of the associated continuing calibration standard.

10. **Overall Assessment**

The SVOC data are acceptable for use as qualified based on the information received. Note that extra volumes for MS and MSD were not provided to the laboratory and therefore, the laboratory did not analyze a site-specific MS/MSD with the analysis. In addition, it was confirmed that target analytes were not detected in the samples.

TOTAL METALS BY METHODS 6020 AND 7470A

1. **Samples**

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
BG-RW01-100609	500-21700-1	Water	10/6/2009	10/12/2009 – 10/20/2009
BG-RW02-100609	500-21700-2	Water	10/6/2009	10/12/2009 – 10/14/2009
BG-RW02-100609	500-21700-3	Water	10/6/2009	10/12/2009 – 10/14/2009
BG-SW01-100709	500-21700-4	Water	10/7/2009	10/12/2009 – 10/20/2009
BG-SW02-100709	500-21700-5	Water	10/7/2009	10/12/2009 – 10/20/2009

Data Validation Report
Bautsch Grey Mine Site
TestAmerica Laboratories, Inc.
Laboratory Project #: 500-21700-1

2. Holding Times

The samples were analyzed within the required holding time limit of 28 days from sample collection for mercury and 180 days from sample collection for all other metals.

3. Calibrations

The initial calibration verification and continuing calibration verification standards were within the QC limits of 90 to 110 percent recovery (%R).

4. Blank Results

Method blanks and calibration blanks were analyzed with the samples and were free of target analytes above the reporting limit except for as follows.

Cadmium was detected slightly above the reporting limit at 0.000675 milligram per liter (mg/L). Cadmium results at less than 10 times this concentration were flagged "J+" as estimated with a high bias.

Some target metals were detected below the reporting limit; however, in most instances there were either no detections in the samples or the sample result was much greater than the blank result. The exception was copper in sample BG-RW02-100609. This copper result was flagged "U" as not detect.

5. Interference Check Sample (ICS) Results

The ICS solutions A and AB were analyzed. The recoveries in the ICS solution AB were within the QC limits of 80 to 120 %R.

6. LCS Results

The LCS recoveries were within the laboratory-established QC limits for target analytes.

7. Field Duplicate Results

The relative percent difference (RPD) between the field duplicate and investigative sample was calculated for each detected metal. There is no RPD QC limit set for field duplicates; however, a standard RPD limit of 50 was used for comparison purposes. The RPDs ranged from 0 to 50 percent which indicates good correlation.

Data Validation Report
Bautsch Grey Mine Site
TestAmerica Laboratories, Inc.
Laboratory Project #: 500-21700-1

8. **MS and MSD Results**

Extra volumes for MS and MSD were not provided to the laboratory and therefore, the laboratory did not analyze a site-specific MS/MSD with the analysis.

9. **Overall Assessment**

The metals data are acceptable for use as qualified based on the information received. Sample results were spot-checked against raw data and they appear to have been reported correctly.

MISCELLANEOUS PARAMETERS (pH by 9040B)

1. **Samples**

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
BG-RW01-100609	500-21700-1	Water	10/6/2009	10/9/2009
BG-RW02-100609	500-21700-2	Water	10/6/2009	10/9/2009
BG-RW02-100609	500-21700-3	Water	10/6/2009	10/9/2009
BG-SW01-100709	500-21700-4	Water	10/7/2009	10/9/2009
BG-SW02-100709	500-21700-5	Water	10/7/2009	10/9/2009

2. **Holding Times**

There is not specific holding time limit for pH; although, the method states that the analysis should be run as soon as possible. pH was analyzed between 2 and 3 days from sample collection.

3. **Duplicate Results**

Laboratory duplicates were analyzed with the pH analyses. The RPDs between he duplicate and parent sample were within the QC limit.

In addition the field duplicate RPD value was 0.8 percent indicating excellent correlation.

4. Overall Assessment

The pH data are acceptable for use based on the information received.

Data Validation Report
Bautsch Grey Mine Site
TestAmerica Laboratories, Inc.
Laboratory Project #: 500-21700-1

ATTACHMENT

TESTAMERICA LABORATORIES, INC.
RESULTS SUMMARY

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 500-21700-1

Job Description: Bautsch-Grey Mine

For:
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Attention: Lisa Graczyk

Cindy Pritchard

Approved for release.
Cindy R Pritchard
Project Mgmt. Assistant
10/23/2009 11:38 AM

Designee for
Richard C Wright
Project Manager II
richard.wright@testamericainc.com
10/23/2009

These test results meet all the requirements of NELAC for accredited parameters.

The Lab Certification ID# is 100201.

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.
TestAmerica Chicago 2417 Bond Street, University Park, IL 60484
Tel (708) 534-5200 Fax (708) 534-5211 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nelac

Job Narrative
500-21700-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 8270C: The ICV (Mix 1) that ran on inst. 1 on 10/09/09 at 18:57 had Nitrobenzene at 25.7% (high); Hexachlorocyclopentadiene at 30.5% (high) and 2,4,6-Trichlorophenol at 32.5% (high).BG-RW01-100609 (500-21700-1), BG-RW02-100609 (500-21700-2), BG-RW02-100609-D (500-21700-3), BG-SW01-100709 (500-21700-4), BG-SW02-100709 (500-21700-5)

No other analytical or quality issues were noted.

Metals
Method(s) 6020: The method blank for preparation batch 73329 contained Cd above the reporting limit (RL). All associated sample(s) that contained detects for this analyte at concentrations greater than 10X the value found in the method blank or were less than the RL were reported. All others were re-digested.

Method(s) 6020: The following samples were diluted due to the abundance of target analytes 500-21700-1, 4, 5. Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Weston Solutions, Inc. Job Number: 500-21700-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
500-21700-1	**BG-RW01-100609**					
pH		6.95	HF	0.200	SU	9040B
Total Recoverable						
Barium		0.016		0.0025	mg/L	6020
Cadmium		0.0011 J+		0.00050	mg/L	6020
Calcium		280		2.0	mg/L	6020
Copper		0.021	B	0.0020	mg/L	6020
Lead		0.027	B	0.00050	mg/L	6020
Magnesium		97		0.20	mg/L	6020
Manganese		0.0030		0.0025	mg/L	6020
Nickel		0.0024	B	0.0020	mg/L	6020
Potassium		1.5		0.50	mg/L	6020
Sodium		7.8	B	0.20	mg/L	6020
Thallium		0.00054	J	0.0020	mg/L	6020
Zinc		1.2	B	0.020	mg/L	6020
500-21700-2	**BG-RW02-100609**					
pH		7.01	HF	0.200	SU	9040B
Total Recoverable						
Arsenic		0.0014		0.0010	mg/L	6020
Barium		0.016		0.0025	mg/L	6020
Calcium		170		0.20	mg/L	6020
Cobalt		0.00080	J	0.0010	mg/L	6020
Copper		~~0.00095~~	~~J B~~	0.0020 U	mg/L	6020
Iron		2.1		0.10	mg/L	6020
Lead		0.00079	B	0.00050	mg/L	6020
Magnesium		85		0.20	mg/L	6020
Manganese		0.18		0.0025	mg/L	6020
Nickel		0.0030	B	0.0020	mg/L	6020
Potassium		1.4		0.50	mg/L	6020
Sodium		6.6	B	0.20	mg/L	6020
Zinc		0.60	B	0.020	mg/L	6020

EXECUTIVE SUMMARY - Detections

Client: Weston Solutions, Inc.

Job Number: 500-21700-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
500-21700-3FD	**BG-RW02-100609-D**					
pH		7.09	HF	0.200	SU	9040B
Total Recoverable						
Arsenic		0.0014		0.0010	mg/L	6020
Barium		0.017		0.0025	mg/L	6020
Calcium		180		0.20	mg/L	6020
Cobalt		0.00079	J	0.0010	mg/L	6020
Copper		0.0012	J B	0.0020	mg/L	6020
Iron		2.2		0.10	mg/L	6020
Lead		0.0016	B	0.00050	mg/L	6020
Magnesium		88		0.20	mg/L	6020
Manganese		0.18		0.0025	mg/L	6020
Nickel		0.0029	B	0.0020	mg/L	6020
Potassium		1.5		0.50	mg/L	6020
Sodium		6.8	B	0.20	mg/L	6020
Zinc		0.62	B	0.020	mg/L	6020
500-21700-4	**BG-SW01-100709**					
Acetone		0.0071		0.0050	mg/L	8260B
Mercury		0.00039		0.00020	mg/L	7470A
pH		7.27	HF	0.200	SU	9040B
Total Recoverable						
Aluminum		27		0.10	mg/L	6020
Antimony		0.0045	J	0.010	mg/L	6020
Arsenic		0.22		0.020	mg/L	6020
Barium		0.18		0.0025	mg/L	6020
Beryllium		0.0041		0.0010	mg/L	6020
Cadmium		0.39	B	0.0025	mg/L	6020
Calcium		1300		4.0	mg/L	6020
Chromium		0.047	J	0.10	mg/L	6020
Cobalt		0.19		0.020	mg/L	6020
Copper		0.40	B	0.040	mg/L	6020
Iron		230		2.0	mg/L	6020
Lead		63	B	0.010	mg/L	6020
Magnesium		250		1.0	mg/L	6020
Magnesium		260		4.0	mg/L	6020
Manganese		7.1		0.050	mg/L	6020
Nickel		0.37	B	0.040	mg/L	6020
Potassium		23		0.50	mg/L	6020
Silver		0.0073		0.00050	mg/L	6020
Sodium		0.96	J B	1.0	mg/L	6020
Thallium		0.0039		0.0020	mg/L	6020
Vanadium		0.029	J	0.10	mg/L	6020
Zinc		130	B	2.0	mg/L	6020

EXECUTIVE SUMMARY - Detections

Client: Weston Solutions, Inc. Job Number: 500-21700-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
500-21700-5	**BG-SW02-100709**					
pH		7.60	HF	0.200	SU	9040B
Total Recoverable						
Aluminum		0.025	J	0.10	mg/L	6020
Arsenic		0.00029	J	0.0010	mg/L	6020
Barium		0.022		0.0025	mg/L	6020
Cadmium		0.0012 J+		0.00050	mg/L	6020
Calcium		400		2.0	mg/L	6020
Cobalt		0.0011		0.0010	mg/L	6020
Copper		0.0037	B	0.0020	mg/L	6020
Iron		0.25		0.10	mg/L	6020
Lead		0.020	B	0.00050	mg/L	6020
Magnesium		64		0.20	mg/L	6020
Manganese		0.087		0.0025	mg/L	6020
Nickel		0.016	B	0.0020	mg/L	6020
Potassium		3.9		0.50	mg/L	6020
Sodium		7.4	B	0.20	mg/L	6020
Zinc		3.2	B	0.020	mg/L	6020

METHOD SUMMARY

Client: Weston Solutions, Inc.

Job Number: 500-21700-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL CHI	SW846 8260B	
Purge and Trap	TAL CHI		SW846 5030B
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL CHI	SW846 8270C	
Liquid-Liquid Extraction (Separatory Funnel)	TAL CHI		SW846 3510C
Metals (ICP/MS)	TAL CHI	SW846 6020	
Preparation, Total Recoverable or Dissolved Metals	TAL CHI		SW846 3005A
Mercury (CVAA)	TAL CHI	SW846 7470A	
Preparation, Mercury	TAL CHI		SW846 7470A
pH	TAL CHI	SW846 9040B	

Lab References:

TAL CHI = TestAmerica Chicago

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Weston Solutions, Inc.

Job Number: 500-21700-1

Method	Analyst	Analyst ID
SW846 8260B	Aikpala, Elaine	EA
SW846 8270C	Arcakal, Duran	DA
SW846 6020	Kolarczyk, Paul F	PFK
SW846 7470A	Klee, George O	GOK
SW846 9040B	Moore, Colleen L	CLM

SAMPLE SUMMARY

Client: Weston Solutions, Inc.

Job Number: 500-21700-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
500-21700-1	BG-RW01-100609	Water	10/06/2009 1700	10/09/2009 1445
500-21700-2	BG-RW02-100609	Water	10/06/2009 1750	10/09/2009 1445
500-21700-3FD	BG-RW02-100609-D	Water	10/06/2009 1755	10/09/2009 1445
500-21700-4	BG-SW01-100709	Water	10/07/2009 1500	10/09/2009 1445
500-21700-5	BG-SW02-100709	Water	10/07/2009 1545	10/09/2009 1445
500-21700-6TB	TRIP BLANK	Water	10/06/2009 0000	10/09/2009 1445

SAMPLE RESULTS

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW01-100609
Lab Sample ID: 500-21700-1

Date Sampled: 10/06/2009 1700
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:	10/14/2009 0232		
Prep Method: 5030B		Date Prepared:	10/14/2009 0232		
Acetone	<0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 UJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acceptance Limits		
4-Bromofluorobenzene (Surr)	89	%	77 - 120		

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW01-100609
Lab Sample ID: 500-21700-1

Date Sampled: 10/06/2009 1700
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate				Acceptance Limits	
Dibromofluoromethane	110	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)	110	%		72 - 135	
Toluene-d8 (Surr)	95	%		80 - 120	
Method: 8270C		Date Analyzed:		10/13/2009 1616	
Prep Method: 3510C		Date Prepared:		10/12/2009 0803	
Acenaphthene	<0.00094	mg/L	0.000055	0.00094	1.0
Acenaphthylene	<0.00094	mg/L	0.000055	0.00094	1.0
Anthracene	<0.00094	mg/L	0.000064	0.00094	1.0
Benzo[a]anthracene	<0.00012	mg/L	0.000062	0.00012	1.0
Benzo[a]pyrene	<0.00019	mg/L	0.000042	0.00019	1.0
Benzo[b]fluoranthene	<0.00017	mg/L	0.000040	0.00017	1.0
Benzo[g,h,i]perylene	<0.00094	mg/L	0.00010	0.00094	1.0
Benzo[k]fluoranthene	<0.00016	mg/L	0.000075	0.00016	1.0
Bis(2-chloroethoxy)methane	<0.0019	mg/L	0.00013	0.0019	1.0
Bis(2-chloroethyl)ether	<0.0019	mg/L	0.00023	0.0019	1.0
Bis(2-ethylhexyl) phthalate	<0.0094	mg/L	0.0018	0.0094	1.0
4-Bromophenyl phenyl ether	<0.0047	mg/L	0.00015	0.0047	1.0
Butyl benzyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
Carbazole	<0.0047	mg/L	0.00077	0.0047	1.0
4-Chloroaniline	<0.0094	mg/L	0.00074	0.0094	1.0
4-Chloro-3-methylphenol	<0.0094	mg/L	0.0023	0.0094	1.0
2-Chloronaphthalene	<0.0019	mg/L	0.00016	0.0019	1.0
2-Chlorophenol	<0.0047	mg/L	0.00020	0.0047	1.0
4-Chlorophenyl phenyl ether	<0.0047	mg/L	0.00023	0.0047	1.0
Chrysene	<0.00047	mg/L	0.000064	0.00047	1.0
Dibenz(a,h)anthracene	<0.00028	mg/L	0.000054	0.00028	1.0
Dibenzofuran	<0.0019	mg/L	0.00023	0.0019	1.0
1,2-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
1,3-Dichlorobenzene	<0.0019	mg/L	0.00020	0.0019	1.0
1,4-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
3,3'-Dichlorobenzidine	<0.0047	mg/L	0.00024	0.0047	1.0
2,4-Dichlorophenol	<0.0094	mg/L	0.0030	0.0094	1.0
Diethyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
2,4-Dimethylphenol	<0.0094	mg/L	0.0010	0.0094	1.0
Dimethyl phthalate	<0.0019	mg/L	0.00012	0.0019	1.0
Di-n-butyl phthalate	<0.0047	mg/L	0.00060	0.0047	1.0
4,6-Dinitro-2-methylphenol	<0.019	mg/L	0.0017	0.019	1.0
2,4-Dinitrophenol	<0.019	mg/L	0.0029	0.019	1.0
2,4-Dinitrotoluene	<0.00094	mg/L	0.00042	0.00094	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW01-100609
Lab Sample ID: 500-21700-1

Date Sampled: 10/06/2009 1700
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00047	mg/L	0.00011	0.00047	1.0
Di-n-octyl phthalate	<0.0094	mg/L	0.0016	0.0094	1.0
Fluoranthene	<0.00094	mg/L	0.000064	0.00094	1.0
Fluorene	<0.00094	mg/L	0.000054	0.00094	1.0
Hexachlorobenzene	<0.00047	mg/L	0.000062	0.00047	1.0
Hexachlorobutadiene	<0.0047	mg/L	0.00024	0.0047	1.0
Hexachlorocyclopentadiene	<0.019	mg/L	0.0042	0.019	1.0
Hexachloroethane	<0.0047	mg/L	0.00024	0.0047	1.0
Indeno[1,2,3-cd]pyrene	<0.00019	mg/L	0.000068	0.00019	1.0
Isophorone	<0.0019	mg/L	0.00055	0.0019	1.0
2-Methylnaphthalene	<0.00047	mg/L	0.00015	0.00047	1.0
2-Methylphenol	<0.0019	mg/L	0.00041	0.0019	1.0
3 & 4 Methylphenol	<0.0019	mg/L	0.00018	0.0019	1.0
Naphthalene	<0.00094	mg/L	0.000094	0.00094	1.0
2-Nitroaniline	<0.0047	mg/L	0.00052	0.0047	1.0
3-Nitroaniline	<0.0094	mg/L	0.00094	0.0094	1.0
4-Nitroaniline	<0.0094	mg/L	0.0022	0.0094	1.0
Nitrobenzene	<0.00094	mg/L	0.00028	0.00094	1.0
2-Nitrophenol	<0.0094	mg/L	0.00060	0.0094	1.0
4-Nitrophenol	<0.019	mg/L	0.0023	0.019	1.0
N-Nitrosodi-n-propylamine	<0.00047	mg/L	0.00014	0.00047	1.0
N-Nitrosodiphenylamine	<0.00094	mg/L	0.00019	0.00094	1.0
2,2'-oxybis[1-chloropropane]	<0.0019	mg/L	0.00019	0.0019	1.0
Pentachlorophenol	<0.019	mg/L	0.0020	0.019	1.0
Phenanthrene	<0.00094	mg/L	0.000067	0.00094	1.0
Phenol	<0.0047	mg/L	0.0012	0.0047	1.0
Pyrene	<0.00094	mg/L	0.000067	0.00094	1.0
1,2,4-Trichlorobenzene	<0.0019	mg/L	0.00023	0.0019	1.0
2,4,5-Trichlorophenol	<0.0094	mg/L	0.0025	0.0094	1.0
2,4,6-Trichlorophenol	<0.0047	mg/L	0.00063	0.0047	1.0

Surrogate			Acceptance Limits
2-Fluorobiphenyl	73	%	37 - 120
2-Fluorophenol	41	%	20 - 110
Nitrobenzene-d5	68	%	42 - 120
Phenol-d5	27	%	20 - 110
Terphenyl-d14	84	%	39 - 120
2,4,6-Tribromophenol	78	%	41 - 122

Method: Total Recoverable-6020
Prep Method: 3005A
Date Analyzed: 10/12/2009 1419
Date Prepared: 10/12/2009 0730

Aluminum	<0.10	mg/L	0.022	0.10	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW01-100609
Lab Sample ID: 500-21700-1

Date Sampled: 10/06/2009 1700
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Arsenic	<0.0010		mg/L	0.00015	0.0010	1.0
Barium	0.016		mg/L	0.00057	0.0025	1.0
Chromium	<0.0050		mg/L	0.00084	0.0050	1.0
Copper	0.021	B	mg/L	0.00046	0.0020	1.0
Iron	<0.10		mg/L	0.024	0.10	1.0
Manganese	0.0030		mg/L	0.00028	0.0025	1.0
Nickel	0.0024	B	mg/L	0.00024	0.0020	1.0
Potassium	1.5		mg/L	0.10	0.50	1.0
Selenium	<0.0025		mg/L	0.00043	0.0025	1.0
Silver	<0.00050		mg/L	0.000094	0.00050	1.0
Thallium	0.00054	J	mg/L	0.00030	0.0020	1.0
Vanadium	<0.0050		mg/L	0.00061	0.0050	1.0
Zinc	1.2	B	mg/L	0.0066	0.020	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/12/2009 2009		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Beryllium	<0.0010		mg/L	0.00027	0.0010	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/14/2009 1400		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Antimony	<0.0020		mg/L	0.00016	0.0020	1.0
Cobalt	<0.0010		mg/L	0.000053	0.0010	1.0
Lead	0.027	B	mg/L	0.000050	0.00050	1.0
Magnesium	97		mg/L	0.024	0.20	1.0
Sodium	7.8	B	mg/L	0.024	0.20	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/19/2009 1941		
Prep Method: 3005A			Date Prepared:	10/19/2009 0800		
Cadmium	0.0011 J+		mg/L	0.00016	0.00050	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/20/2009 1713		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Calcium	280		mg/L	0.71	2.0	10
Method: 7470A			Date Analyzed:	10/13/2009 1358		
Prep Method: 7470A			Date Prepared:	10/13/2009 0915		
Mercury	<0.00020		mg/L	0.000078	0.00020	1.0
Method: 9040B			Date Analyzed:	10/09/2009 1459		
pH	6.95	HF	SU	0.200	0.200	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609
Lab Sample ID: 500-21700-2

Date Sampled: 10/06/2009 1750
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:	10/14/2009 0253		
Prep Method: 5030B		Date Prepared:	10/14/2009 0253		
Acetone	<0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 UJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acceptance Limits		
4-Bromofluorobenzene (Surr)	88	%	77 - 120		

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609
Lab Sample ID: 500-21700-2

Date Sampled: 10/06/2009 1750
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate				Acceptance Limits	
Dibromofluoromethane	112	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)	113	%		72 - 135	
Toluene-d8 (Surr)	95	%		80 - 120	
Method: 8270C		Date Analyzed:		10/13/2009 1639	
Prep Method: 3510C		Date Prepared:		10/12/2009 0803	
Acenaphthene	<0.00093	mg/L	0.000054	0.00093	1.0
Acenaphthylene	<0.00093	mg/L	0.000054	0.00093	1.0
Anthracene	<0.00093	mg/L	0.000064	0.00093	1.0
Benzo[a]anthracene	<0.00012	mg/L	0.000062	0.00012	1.0
Benzo[a]pyrene	<0.00019	mg/L	0.000041	0.00019	1.0
Benzo[b]fluoranthene	<0.00017	mg/L	0.000039	0.00017	1.0
Benzo[g,h,i]perylene	<0.00093	mg/L	0.00010	0.00093	1.0
Benzo[k]fluoranthene	<0.00016	mg/L	0.000074	0.00016	1.0
Bis(2-chloroethoxy)methane	<0.0019	mg/L	0.00013	0.0019	1.0
Bis(2-chloroethyl)ether	<0.0019	mg/L	0.00022	0.0019	1.0
Bis(2-ethylhexyl) phthalate	<0.0093	mg/L	0.0018	0.0093	1.0
4-Bromophenyl phenyl ether	<0.0047	mg/L	0.00015	0.0047	1.0
Butyl benzyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
Carbazole	<0.0047	mg/L	0.00077	0.0047	1.0
4-Chloroaniline	<0.0093	mg/L	0.00073	0.0093	1.0
4-Chloro-3-methylphenol	<0.0093	mg/L	0.0022	0.0093	1.0
2-Chloronaphthalene	<0.0019	mg/L	0.00016	0.0019	1.0
2-Chlorophenol	<0.0047	mg/L	0.00020	0.0047	1.0
4-Chlorophenyl phenyl ether	<0.0047	mg/L	0.00022	0.0047	1.0
Chrysene	<0.00047	mg/L	0.000064	0.00047	1.0
Dibenz(a,h)anthracene	<0.00028	mg/L	0.000053	0.00028	1.0
Dibenzofuran	<0.0019	mg/L	0.00022	0.0019	1.0
1,2-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
1,3-Dichlorobenzene	<0.0019	mg/L	0.00020	0.0019	1.0
1,4-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
3,3'-Dichlorobenzidine	<0.0047	mg/L	0.00023	0.0047	1.0
2,4-Dichlorophenol	<0.0093	mg/L	0.0030	0.0093	1.0
Diethyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
2,4-Dimethylphenol	<0.0093	mg/L	0.0010	0.0093	1.0
Dimethyl phthalate	<0.0019	mg/L	0.00012	0.0019	1.0
Di-n-butyl phthalate	<0.0047	mg/L	0.00060	0.0047	1.0
4,6-Dinitro-2-methylphenol	<0.019	mg/L	0.0017	0.019	1.0
2,4-Dinitrophenol	<0.019	mg/L	0.0029	0.019	1.0
2,4-Dinitrotoluene	<0.00093	mg/L	0.00042	0.00093	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609
Lab Sample ID: 500-21700-2

Date Sampled: 10/06/2009 1750
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00047	mg/L	0.00011	0.00047	1.0
Di-n-octyl phthalate	<0.0093	mg/L	0.0016	0.0093	1.0
Fluoranthene	<0.00093	mg/L	0.000064	0.00093	1.0
Fluorene	<0.00093	mg/L	0.000053	0.00093	1.0
Hexachlorobenzene	<0.00047	mg/L	0.000062	0.00047	1.0
Hexachlorobutadiene	<0.0047	mg/L	0.00023	0.0047	1.0
Hexachlorocyclopentadiene	<0.019	mg/L	0.0041	0.019	1.0
Hexachloroethane	<0.0047	mg/L	0.00023	0.0047	1.0
Indeno[1,2,3-cd]pyrene	<0.00019	mg/L	0.000067	0.00019	1.0
Isophorone	<0.0019	mg/L	0.00054	0.0019	1.0
2-Methylnaphthalene	<0.00047	mg/L	0.00015	0.00047	1.0
2-Methylphenol	<0.0019	mg/L	0.00040	0.0019	1.0
3 & 4 Methylphenol	<0.0019	mg/L	0.00018	0.0019	1.0
Naphthalene	<0.00093	mg/L	0.000093	0.00093	1.0
2-Nitroaniline	<0.0047	mg/L	0.00051	0.0047	1.0
3-Nitroaniline	<0.0093	mg/L	0.00093	0.0093	1.0
4-Nitroaniline	<0.0093	mg/L	0.0021	0.0093	1.0
Nitrobenzene	<0.00093	mg/L	0.00028	0.00093	1.0
2-Nitrophenol	<0.0093	mg/L	0.00060	0.0093	1.0
4-Nitrophenol	<0.019	mg/L	0.0022	0.019	1.0
N-Nitrosodi-n-propylamine	<0.00047	mg/L	0.00014	0.00047	1.0
N-Nitrosodiphenylamine	<0.00093	mg/L	0.00019	0.00093	1.0
2,2'-oxybis[1-chloropropane]	<0.0019	mg/L	0.00019	0.0019	1.0
Pentachlorophenol	<0.019	mg/L	0.0020	0.019	1.0
Phenanthrene	<0.00093	mg/L	0.000066	0.00093	1.0
Phenol	<0.0047	mg/L	0.0012	0.0047	1.0
Pyrene	<0.00093	mg/L	0.000066	0.00093	1.0
1,2,4-Trichlorobenzene	<0.0019	mg/L	0.00022	0.0019	1.0
2,4,5-Trichlorophenol	<0.0093	mg/L	0.0024	0.0093	1.0
2,4,6-Trichlorophenol	<0.0047	mg/L	0.00063	0.0047	1.0

Surrogate			Acceptance Limits
2-Fluorobiphenyl	75	%	37 - 120
2-Fluorophenol	41	%	20 - 110
Nitrobenzene-d5	67	%	42 - 120
Phenol-d5	27	%	20 - 110
Terphenyl-d14	84	%	39 - 120
2,4,6-Tribromophenol	78	%	41 - 122

Method: Total Recoverable-6020 Date Analyzed: 10/12/2009 1424
Prep Method: 3005A Date Prepared: 10/12/2009 0730

Aluminum	<0.10	mg/L	0.022	0.10	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609
Lab Sample ID: 500-21700-2

Date Sampled: 10/06/2009 1750
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Arsenic	0.0014		mg/L	0.00015	0.0010	1.0
Barium	0.016		mg/L	0.00057	0.0025	1.0
Calcium	170		mg/L	0.071	0.20	1.0
Chromium	<0.0050		mg/L	0.00084	0.0050	1.0
Copper	0.00095	J B	mg/L	0.00046	0.0020	1.0
Iron	2.1		mg/L	0.024	0.10	1.0
Manganese	0.18		mg/L	0.00028	0.0025	1.0
Nickel	0.0030	B	mg/L	0.00024	0.0020	1.0
Potassium	1.4		mg/L	0.10	0.50	1.0
Selenium	<0.0025		mg/L	0.00043	0.0025	1.0
Silver	<0.00050		mg/L	0.000094	0.00050	1.0
Thallium	<0.0020		mg/L	0.00030	0.0020	1.0
Vanadium	<0.0050		mg/L	0.00061	0.0050	1.0
Zinc	0.60	B	mg/L	0.0066	0.020	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/12/2009 2013		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Beryllium	<0.0010		mg/L	0.00027	0.0010	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/14/2009 1405		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Antimony	<0.0020		mg/L	0.00016	0.0020	1.0
Cadmium	<0.00050		mg/L	0.00016	0.00050	1.0
Cobalt	0.00080	J	mg/L	0.000053	0.0010	1.0
Lead	0.00079	B	mg/L	0.000050	0.00050	1.0
Magnesium	85		mg/L	0.024	0.20	1.0
Sodium	6.6	B	mg/L	0.024	0.20	1.0
Method: 7470A			Date Analyzed:	10/13/2009 1400		
Prep Method: 7470A			Date Prepared:	10/13/2009 0915		
Mercury	<0.00020		mg/L	0.000078	0.00020	1.0
Method: 9040B			Date Analyzed:	10/09/2009 1508		
pH	7.01	HF	SU	0.200	0.200	1.0

0.0020U

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609-D
Lab Sample ID: 500-21700-3

Date Sampled: 10/06/2009 1755
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:	10/14/2009 0315		
Prep Method: 5030B		Date Prepared:	10/14/2009 0315		
Acetone	<0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 UJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acceptance Limits		
4-Bromofluorobenzene (Surr)	89	%	77 - 120		

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609-D
Lab Sample ID: 500-21700-3

Date Sampled: 10/06/2009 1755
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate				Acceptance Limits	
Dibromofluoromethane	112	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)	110	%		72 - 135	
Toluene-d8 (Surr)	95	%		80 - 120	
Method: 8270C		Date Analyzed:		10/13/2009 1702	
Prep Method: 3510C		Date Prepared:		10/12/2009 0803	
Acenaphthene	<0.00093	mg/L	0.000054	0.00093	1.0
Acenaphthylene	<0.00093	mg/L	0.000054	0.00093	1.0
Anthracene	<0.00093	mg/L	0.000064	0.00093	1.0
Benzo[a]anthracene	<0.00012	mg/L	0.000062	0.00012	1.0
Benzo[a]pyrene	<0.00019	mg/L	0.000041	0.00019	1.0
Benzo[b]fluoranthene	<0.00017	mg/L	0.000039	0.00017	1.0
Benzo[g,h,i]perylene	<0.00093	mg/L	0.00010	0.00093	1.0
Benzo[k]fluoranthene	<0.00016	mg/L	0.000074	0.00016	1.0
Bis(2-chloroethoxy)methane	<0.0019	mg/L	0.00013	0.0019	1.0
Bis(2-chloroethyl)ether	<0.0019	mg/L	0.00022	0.0019	1.0
Bis(2-ethylhexyl) phthalate	<0.0093	mg/L	0.0018	0.0093	1.0
4-Bromophenyl phenyl ether	<0.0047	mg/L	0.00015	0.0047	1.0
Butyl benzyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
Carbazole	<0.0047	mg/L	0.00077	0.0047	1.0
4-Chloroaniline	<0.0093	mg/L	0.00073	0.0093	1.0
4-Chloro-3-methylphenol	<0.0093	mg/L	0.0022	0.0093	1.0
2-Chloronaphthalene	<0.0019	mg/L	0.00016	0.0019	1.0
2-Chlorophenol	<0.0047	mg/L	0.00020	0.0047	1.0
4-Chlorophenyl phenyl ether	<0.0047	mg/L	0.00022	0.0047	1.0
Chrysene	<0.00047	mg/L	0.000064	0.00047	1.0
Dibenz(a,h)anthracene	<0.00028	mg/L	0.000053	0.00028	1.0
Dibenzofuran	<0.0019	mg/L	0.00022	0.0019	1.0
1,2-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
1,3-Dichlorobenzene	<0.0019	mg/L	0.00020	0.0019	1.0
1,4-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
3,3'-Dichlorobenzidine	<0.0047	mg/L	0.00023	0.0047	1.0
2,4-Dichlorophenol	<0.0093	mg/L	0.0030	0.0093	1.0
Diethyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
2,4-Dimethylphenol	<0.0093	mg/L	0.0010	0.0093	1.0
Dimethyl phthalate	<0.0019	mg/L	0.00012	0.0019	1.0
Di-n-butyl phthalate	<0.0047	mg/L	0.00060	0.0047	1.0
4,6-Dinitro-2-methylphenol	<0.019	mg/L	0.0017	0.019	1.0
2,4-Dinitrophenol	<0.019	mg/L	0.0029	0.019	1.0
2,4-Dinitrotoluene	<0.00093	mg/L	0.00042	0.00093	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609-D
Lab Sample ID: 500-21700-3

Date Sampled: 10/06/2009 1755
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00047	mg/L	0.00011	0.00047	1.0
Di-n-octyl phthalate	<0.0093	mg/L	0.0016	0.0093	1.0
Fluoranthene	<0.00093	mg/L	0.000064	0.00093	1.0
Fluorene	<0.00093	mg/L	0.000053	0.00093	1.0
Hexachlorobenzene	<0.00047	mg/L	0.000062	0.00047	1.0
Hexachlorobutadiene	<0.0047	mg/L	0.00023	0.0047	1.0
Hexachlorocyclopentadiene	<0.019	mg/L	0.0041	0.019	1.0
Hexachloroethane	<0.0047	mg/L	0.00023	0.0047	1.0
Indeno[1,2,3-cd]pyrene	<0.00019	mg/L	0.000067	0.00019	1.0
Isophorone	<0.0019	mg/L	0.00054	0.0019	1.0
2-Methylnaphthalene	<0.00047	mg/L	0.00015	0.00047	1.0
2-Methylphenol	<0.0019	mg/L	0.00040	0.0019	1.0
3 & 4 Methylphenol	<0.0019	mg/L	0.00018	0.0019	1.0
Naphthalene	<0.00093	mg/L	0.000093	0.00093	1.0
2-Nitroaniline	<0.0047	mg/L	0.00051	0.0047	1.0
3-Nitroaniline	<0.0093	mg/L	0.00093	0.0093	1.0
4-Nitroaniline	<0.0093	mg/L	0.0021	0.0093	1.0
Nitrobenzene	<0.00093	mg/L	0.00028	0.00093	1.0
2-Nitrophenol	<0.0093	mg/L	0.00060	0.0093	1.0
4-Nitrophenol	<0.019	mg/L	0.0022	0.019	1.0
N-Nitrosodi-n-propylamine	<0.00047	mg/L	0.00014	0.00047	1.0
N-Nitrosodiphenylamine	<0.00093	mg/L	0.00019	0.00093	1.0
2,2'-oxybis[1-chloropropane]	<0.0019	mg/L	0.00019	0.0019	1.0
Pentachlorophenol	<0.019	mg/L	0.0020	0.019	1.0
Phenanthrene	<0.00093	mg/L	0.000066	0.00093	1.0
Phenol	<0.0047	mg/L	0.0012	0.0047	1.0
Pyrene	<0.00093	mg/L	0.000066	0.00093	1.0
1,2,4-Trichlorobenzene	<0.0019	mg/L	0.00022	0.0019	1.0
2,4,5-Trichlorophenol	<0.0093	mg/L	0.0024	0.0093	1.0
2,4,6-Trichlorophenol	<0.0047	mg/L	0.00063	0.0047	1.0

Surrogate			Acceptance Limits
2-Fluorobiphenyl	74	%	37 - 120
2-Fluorophenol	41	%	20 - 110
Nitrobenzene-d5	69	%	42 - 120
Phenol-d5	26	%	20 - 110
Terphenyl-d14	84	%	39 - 120
2,4,6-Tribromophenol	76	%	41 - 122

Method: Total Recoverable-6020
Prep Method: 3005A
Date Analyzed: 10/12/2009 1429
Date Prepared: 10/12/2009 0730

Aluminum	<0.10	mg/L	0.022	0.10	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609-D
Lab Sample ID: 500-21700-3

Date Sampled: 10/06/2009 1755
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Arsenic	0.0014		mg/L	0.00015	0.0010	1.0
Barium	0.017		mg/L	0.00057	0.0025	1.0
Calcium	180		mg/L	0.071	0.20	1.0
Chromium	<0.0050		mg/L	0.00084	0.0050	1.0
Copper	0.0012	J B	mg/L	0.00046	0.0020	1.0
Iron	2.2		mg/L	0.024	0.10	1.0
Manganese	0.18		mg/L	0.00028	0.0025	1.0
Nickel	0.0029	B	mg/L	0.00024	0.0020	1.0
Potassium	1.5		mg/L	0.10	0.50	1.0
Selenium	<0.0025		mg/L	0.00043	0.0025	1.0
Silver	<0.00050		mg/L	0.000094	0.00050	1.0
Thallium	<0.0020		mg/L	0.00030	0.0020	1.0
Vanadium	<0.0050		mg/L	0.00061	0.0050	1.0
Zinc	0.62	B	mg/L	0.0066	0.020	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/12/2009 2017		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Beryllium	<0.0010		mg/L	0.00027	0.0010	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/14/2009 1410		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Antimony	<0.0020		mg/L	0.00016	0.0020	1.0
Cadmium	<0.00050		mg/L	0.00016	0.00050	1.0
Cobalt	0.00079	J	mg/L	0.000053	0.0010	1.0
Lead	0.0016	B	mg/L	0.000050	0.00050	1.0
Magnesium	88		mg/L	0.024	0.20	1.0
Sodium	6.8	B	mg/L	0.024	0.20	1.0
Method: 7470A			Date Analyzed:	10/13/2009 1402		
Prep Method: 7470A			Date Prepared:	10/13/2009 0915		
Mercury	<0.00020		mg/L	0.000078	0.00020	1.0
Method: 9040B			Date Analyzed:	10/09/2009 1517		
pH	7.09	HF	SU	0.200	0.200	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-SW01-100709
Lab Sample ID: 500-21700-4

Date Sampled: 10/07/2009 1500
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:	10/14/2009 0335		
Prep Method: 5030B		Date Prepared:	10/14/2009 0335		
Acetone	0.0071	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 UJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acceptance Limits		
4-Bromofluorobenzene (Surr)	88	%	77 - 120		

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-SW01-100709
Lab Sample ID: 500-21700-4

Date Sampled: 10/07/2009 1500
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate				Acceptance Limits	
Dibromofluoromethane	110	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)	111	%		72 - 135	
Toluene-d8 (Surr)	95	%		80 - 120	
Method: 8270C		Date Analyzed:		10/13/2009 1724	
Prep Method: 3510C		Date Prepared:		10/12/2009 0803	
Acenaphthene	<0.00096	mg/L	0.000056	0.00096	1.0
Acenaphthylene	<0.00096	mg/L	0.000056	0.00096	1.0
Anthracene	<0.00096	mg/L	0.000065	0.00096	1.0
Benzo[a]anthracene	<0.00012	mg/L	0.000063	0.00012	1.0
Benzo[a]pyrene	<0.00019	mg/L	0.000042	0.00019	1.0
Benzo[b]fluoranthene	<0.00017	mg/L	0.000040	0.00017	1.0
Benzo[g,h,i]perylene	<0.00096	mg/L	0.00011	0.00096	1.0
Benzo[k]fluoranthene	<0.00016	mg/L	0.000076	0.00016	1.0
Bis(2-chloroethoxy)methane	<0.0019	mg/L	0.00013	0.0019	1.0
Bis(2-chloroethyl)ether	<0.0019	mg/L	0.00023	0.0019	1.0
Bis(2-ethylhexyl) phthalate	<0.0096	mg/L	0.0018	0.0096	1.0
4-Bromophenyl phenyl ether	<0.0048	mg/L	0.00015	0.0048	1.0
Butyl benzyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
Carbazole	<0.0048	mg/L	0.00079	0.0048	1.0
4-Chloroaniline	<0.0096	mg/L	0.00075	0.0096	1.0
4-Chloro-3-methylphenol	<0.0096	mg/L	0.0023	0.0096	1.0
2-Chloronaphthalene	<0.0019	mg/L	0.00016	0.0019	1.0
2-Chlorophenol	<0.0048	mg/L	0.00020	0.0048	1.0
4-Chlorophenyl phenyl ether	<0.0048	mg/L	0.00023	0.0048	1.0
Chrysene	<0.00048	mg/L	0.000065	0.00048	1.0
Dibenz(a,h)anthracene	<0.00029	mg/L	0.000055	0.00029	1.0
Dibenzofuran	<0.0019	mg/L	0.00023	0.0019	1.0
1,2-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
1,3-Dichlorobenzene	<0.0019	mg/L	0.00020	0.0019	1.0
1,4-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
3,3'-Dichlorobenzidine	<0.0048	mg/L	0.00024	0.0048	1.0
2,4-Dichlorophenol	<0.0096	mg/L	0.0031	0.0096	1.0
Diethyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
2,4-Dimethylphenol	<0.0096	mg/L	0.0011	0.0096	1.0
Dimethyl phthalate	<0.0019	mg/L	0.00012	0.0019	1.0
Di-n-butyl phthalate	<0.0048	mg/L	0.00062	0.0048	1.0
4,6-Dinitro-2-methylphenol	<0.019	mg/L	0.0017	0.019	1.0
2,4-Dinitrophenol	<0.019	mg/L	0.0030	0.019	1.0
2,4-Dinitrotoluene	<0.00096	mg/L	0.00043	0.00096	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-SW01-100709
Lab Sample ID: 500-21700-4

Date Sampled: 10/07/2009 1500
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00048	mg/L	0.00012	0.00048	1.0
Di-n-octyl phthalate	<0.0096	mg/L	0.0016	0.0096	1.0
Fluoranthene	<0.00096	mg/L	0.000065	0.00096	1.0
Fluorene	<0.00096	mg/L	0.000055	0.00096	1.0
Hexachlorobenzene	<0.00048	mg/L	0.000063	0.00048	1.0
Hexachlorobutadiene	<0.0048	mg/L	0.00024	0.0048	1.0
Hexachlorocyclopentadiene	<0.019	mg/L	0.0042	0.019	1.0
Hexachloroethane	<0.0048	mg/L	0.00024	0.0048	1.0
Indeno[1,2,3-cd]pyrene	<0.00019	mg/L	0.000069	0.00019	1.0
Isophorone	<0.0019	mg/L	0.00056	0.0019	1.0
2-Methylnaphthalene	<0.00048	mg/L	0.00015	0.00048	1.0
2-Methylphenol	<0.0019	mg/L	0.00041	0.0019	1.0
3 & 4 Methylphenol	<0.0019	mg/L	0.00018	0.0019	1.0
Naphthalene	<0.00096	mg/L	0.000096	0.00096	1.0
2-Nitroaniline	<0.0048	mg/L	0.00053	0.0048	1.0
3-Nitroaniline	<0.0096	mg/L	0.00096	0.0096	1.0
4-Nitroaniline	<0.0096	mg/L	0.0022	0.0096	1.0
Nitrobenzene	<0.00096	mg/L	0.00029	0.00096	1.0
2-Nitrophenol	<0.0096	mg/L	0.00062	0.0096	1.0
4-Nitrophenol	<0.019	mg/L	0.0023	0.019	1.0
N-Nitrosodi-n-propylamine	<0.00048	mg/L	0.00014	0.00048	1.0
N-Nitrosodiphenylamine	<0.00096	mg/L	0.00019	0.00096	1.0
2,2'-oxybis[1-chloropropane]	<0.0019	mg/L	0.00019	0.0019	1.0
Pentachlorophenol	<0.019	mg/L	0.0020	0.019	1.0
Phenanthrene	<0.00096	mg/L	0.000068	0.00096	1.0
Phenol	<0.0048	mg/L	0.0012	0.0048	1.0
Pyrene	<0.00096	mg/L	0.000068	0.00096	1.0
1,2,4-Trichlorobenzene	<0.0019	mg/L	0.00023	0.0019	1.0
2,4,5-Trichlorophenol	<0.0096	mg/L	0.0025	0.0096	1.0
2,4,6-Trichlorophenol	<0.0048	mg/L	0.00064	0.0048	1.0

Surrogate			Acceptance Limits
2-Fluorobiphenyl	65	%	37 - 120
2-Fluorophenol	37	%	20 - 110
Nitrobenzene-d5	58	%	42 - 120
Phenol-d5	25	%	20 - 110
Terphenyl-d14	67	%	39 - 120
2,4,6-Tribromophenol	73	%	41 - 122

Method: Total Recoverable-6020
Date Analyzed: 10/12/2009 1434
Prep Method: 3005A
Date Prepared: 10/12/2009 0730

Aluminum	27	mg/L	0.022	0.10	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-SW01-100709
Lab Sample ID: 500-21700-4

Date Sampled: 10/07/2009 1500
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Barium	0.18		mg/L	0.00057	0.0025	1.0
Potassium	23		mg/L	0.10	0.50	1.0
Silver	0.0073		mg/L	0.000094	0.00050	1.0
Thallium	0.0039		mg/L	0.00030	0.0020	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/12/2009 2021		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Beryllium	0.0041		mg/L	0.00027	0.0010	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/14/2009 1415		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Antimony	0.0045	J	mg/L	0.00080	0.010	5.0
Cadmium	0.39	B	mg/L	0.00080	0.0025	5.0
Magnesium	250		mg/L	0.12	1.0	5.0
Sodium	0.96	J B	mg/L	0.12	1.0	5.0
Method: Total Recoverable-6020			Date Analyzed:	10/14/2009 1420		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Arsenic	0.22		mg/L	0.0030	0.020	20
Calcium	1300		mg/L	1.4	4.0	20
Chromium	0.047	J	mg/L	0.017	0.10	20
Cobalt	0.19		mg/L	0.0011	0.020	20
Copper	0.40	B	mg/L	0.0092	0.040	20
Iron	230		mg/L	0.48	2.0	20
Lead	63	B	mg/L	0.0010	0.010	20
Magnesium	260		mg/L	0.49	4.0	20
Manganese	7.1		mg/L	0.0056	0.050	20
Nickel	0.37	B	mg/L	0.0048	0.040	20
Selenium	<0.050		mg/L	0.0086	0.050	20
Vanadium	0.029	J	mg/L	0.012	0.10	20
Method: Total Recoverable-6020			Date Analyzed:	10/20/2009 1718		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Zinc	130	B	mg/L	0.66	2.0	100
Method: 7470A			Date Analyzed:	10/13/2009 1404		
Prep Method: 7470A			Date Prepared:	10/13/2009 0915		
Mercury	0.00039		mg/L	0.000078	0.00020	1.0
Method: 9040B			Date Analyzed:	10/09/2009 1526		
pH	7.27	HF	SU	0.200	0.200	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-SW02-100709
Lab Sample ID: 500-21700-5

Date Sampled: 10/07/2009 1545
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:	10/14/2009 0357		
Prep Method: 5030B		Date Prepared:	10/14/2009 0357		
Acetone	<0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 UJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acceptance Limits		
4-Bromofluorobenzene (Surr)	88	%	77 - 120		

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-SW02-100709
Lab Sample ID: 500-21700-5

Date Sampled: 10/07/2009 1545
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate				Acceptance Limits	
Dibromofluoromethane	110	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)	113	%		72 - 135	
Toluene-d8 (Surr)	95	%		80 - 120	
Method: 8270C		Date Analyzed:		10/13/2009 1747	
Prep Method: 3510C		Date Prepared:		10/12/2009 0803	
Acenaphthene	<0.0010	mg/L	0.000060	0.0010	1.0
Acenaphthylene	<0.0010	mg/L	0.000060	0.0010	1.0
Anthracene	<0.0010	mg/L	0.000070	0.0010	1.0
Benzo[a]anthracene	<0.00013	mg/L	0.000068	0.00013	1.0
Benzo[a]pyrene	<0.00021	mg/L	0.000045	0.00021	1.0
Benzo[b]fluoranthene	<0.00019	mg/L	0.000043	0.00019	1.0
Benzo[g,h,i]perylene	<0.0010	mg/L	0.00011	0.0010	1.0
Benzo[k]fluoranthene	<0.00018	mg/L	0.000081	0.00018	1.0
Bis(2-chloroethoxy)methane	<0.0021	mg/L	0.00014	0.0021	1.0
Bis(2-chloroethyl)ether	<0.0021	mg/L	0.00025	0.0021	1.0
Bis(2-ethylhexyl) phthalate	<0.010	mg/L	0.0020	0.010	1.0
4-Bromophenyl phenyl ether	<0.0052	mg/L	0.00016	0.0052	1.0
Butyl benzyl phthalate	<0.0021	mg/L	0.00021	0.0021	1.0
Carbazole	<0.0052	mg/L	0.00085	0.0052	1.0
4-Chloroaniline	<0.010	mg/L	0.00080	0.010	1.0
4-Chloro-3-methylphenol	<0.010	mg/L	0.0025	0.010	1.0
2-Chloronaphthalene	<0.0021	mg/L	0.00018	0.0021	1.0
2-Chlorophenol	<0.0052	mg/L	0.00022	0.0052	1.0
4-Chlorophenyl phenyl ether	<0.0052	mg/L	0.00025	0.0052	1.0
Chrysene	<0.00052	mg/L	0.000070	0.00052	1.0
Dibenz(a,h)anthracene	<0.00031	mg/L	0.000059	0.00031	1.0
Dibenzofuran	<0.0021	mg/L	0.00025	0.0021	1.0
1,2-Dichlorobenzene	<0.0021	mg/L	0.00021	0.0021	1.0
1,3-Dichlorobenzene	<0.0021	mg/L	0.00022	0.0021	1.0
1,4-Dichlorobenzene	<0.0021	mg/L	0.00021	0.0021	1.0
3,3'-Dichlorobenzidine	<0.0052	mg/L	0.00026	0.0052	1.0
2,4-Dichlorophenol	<0.010	mg/L	0.0033	0.010	1.0
Diethyl phthalate	<0.0021	mg/L	0.00021	0.0021	1.0
2,4-Dimethylphenol	<0.010	mg/L	0.0011	0.010	1.0
Dimethyl phthalate	<0.0021	mg/L	0.00013	0.0021	1.0
Di-n-butyl phthalate	<0.0052	mg/L	0.00066	0.0052	1.0
4,6-Dinitro-2-methylphenol	<0.021	mg/L	0.0019	0.021	1.0
2,4-Dinitrophenol	<0.021	mg/L	0.0032	0.021	1.0
2,4-Dinitrotoluene	<0.0010	mg/L	0.00046	0.0010	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-SW02-100709
Lab Sample ID: 500-21700-5

Date Sampled: 10/07/2009 1545
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00052		mg/L	0.00012	0.00052	1.0
Di-n-octyl phthalate	<0.010		mg/L	0.0018	0.010	1.0
Fluoranthene	<0.0010		mg/L	0.000070	0.0010	1.0
Fluorene	<0.0010		mg/L	0.000059	0.0010	1.0
Hexachlorobenzene	<0.00052		mg/L	0.000068	0.00052	1.0
Hexachlorobutadiene	<0.0052		mg/L	0.00026	0.0052	1.0
Hexachlorocyclopentadiene	<0.021		mg/L	0.0045	0.021	1.0
Hexachloroethane	<0.0052		mg/L	0.00026	0.0052	1.0
Indeno[1,2,3-cd]pyrene	<0.00021		mg/L	0.000074	0.00021	1.0
Isophorone	<0.0021		mg/L	0.00060	0.0021	1.0
2-Methylnaphthalene	<0.00052		mg/L	0.00016	0.00052	1.0
2-Methylphenol	<0.0021		mg/L	0.00044	0.0021	1.0
3 & 4 Methylphenol	<0.0021		mg/L	0.00020	0.0021	1.0
Naphthalene	<0.0010		mg/L	0.00010	0.0010	1.0
2-Nitroaniline	<0.0052		mg/L	0.00057	0.0052	1.0
3-Nitroaniline	<0.010		mg/L	0.0010	0.010	1.0
4-Nitroaniline	<0.010		mg/L	0.0024	0.010	1.0
Nitrobenzene	<0.0010		mg/L	0.00031	0.0010	1.0
2-Nitrophenol	<0.010		mg/L	0.00066	0.010	1.0
4-Nitrophenol	<0.021		mg/L	0.0025	0.021	1.0
N-Nitrosodi-n-propylamine	<0.00052		mg/L	0.00015	0.00052	1.0
N-Nitrosodiphenylamine	<0.0010		mg/L	0.00021	0.0010	1.0
2,2'-oxybis[1-chloropropane]	<0.0021		mg/L	0.00021	0.0021	1.0
Pentachlorophenol	<0.021		mg/L	0.0022	0.021	1.0
Phenanthrene	<0.0010		mg/L	0.000073	0.0010	1.0
Phenol	<0.0052		mg/L	0.0013	0.0052	1.0
Pyrene	<0.0010		mg/L	0.000073	0.0010	1.0
1,2,4-Trichlorobenzene	<0.0021		mg/L	0.00025	0.0021	1.0
2,4,5-Trichlorophenol	<0.010		mg/L	0.0027	0.010	1.0
2,4,6-Trichlorophenol	<0.0052		mg/L	0.00069	0.0052	1.0
Surrogate					Acceptance Limits	
2-Fluorobiphenyl	55		%		37 - 120	
2-Fluorophenol	32		%		20 - 110	
Nitrobenzene-d5	50		%		42 - 120	
Phenol-d5	22		%		20 - 110	
Terphenyl-d14	65		%		39 - 120	
2,4,6-Tribromophenol	62		%		41 - 122	
Method: Total Recoverable-6020				Date Analyzed:	10/12/2009 1439	
Prep Method: 3005A				Date Prepared:	10/12/2009 0730	
Aluminum	0.025	J	mg/L	0.022	0.10	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: BG-SW02-100709
Lab Sample ID: 500-21700-5

Date Sampled: 10/07/2009 1545
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Arsenic	0.00029	J	mg/L	0.00015	0.0010	1.0
Barium	0.022		mg/L	0.00057	0.0025	1.0
Chromium	<0.0050		mg/L	0.00084	0.0050	1.0
Copper	0.0037	B	mg/L	0.00046	0.0020	1.0
Iron	0.25		mg/L	0.024	0.10	1.0
Manganese	0.087		mg/L	0.00028	0.0025	1.0
Nickel	0.016	B	mg/L	0.00024	0.0020	1.0
Potassium	3.9		mg/L	0.10	0.50	1.0
Selenium	<0.0025		mg/L	0.00043	0.0025	1.0
Silver	<0.00050		mg/L	0.000094	0.00050	1.0
Thallium	<0.0020		mg/L	0.00030	0.0020	1.0
Vanadium	<0.0050		mg/L	0.00061	0.0050	1.0
Zinc	3.2	B	mg/L	0.0066	0.020	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/12/2009 2025		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Beryllium	<0.0010		mg/L	0.00027	0.0010	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/14/2009 1425		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Antimony	<0.0020		mg/L	0.00016	0.0020	1.0
Cobalt	0.0011		mg/L	0.000053	0.0010	1.0
Lead	0.020	B	mg/L	0.000050	0.00050	1.0
Magnesium	64		mg/L	0.024	0.20	1.0
Sodium	7.4	B	mg/L	0.024	0.20	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/19/2009 1946		
Prep Method: 3005A			Date Prepared:	10/19/2009 0800		
Cadmium	0.0012 J+		mg/L	0.00016	0.00050	1.0
Method: Total Recoverable-6020			Date Analyzed:	10/20/2009 1722		
Prep Method: 3005A			Date Prepared:	10/12/2009 0730		
Calcium	400		mg/L	0.71	2.0	10
Method: 7470A			Date Analyzed:	10/13/2009 1406		
Prep Method: 7470A			Date Prepared:	10/13/2009 0915		
Mercury	<0.00020		mg/L	0.000078	0.00020	1.0
Method: 9040B			Date Analyzed:	10/09/2009 1535		
pH	7.60	HF	SU	0.200	0.200	1.0

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: TRIP BLANK
Lab Sample ID: 500-21700-6

Date Sampled: 10/06/2009 0000
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Analyzed:	10/14/2009 0418		
Prep Method: 5030B		Date Prepared:	10/14/2009 0418		
Acetone	<0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 UJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acceptance Limits		
4-Bromofluorobenzene (Surr)	89	%	77 - 120		

Lisa Graczyk
Weston Solutions, Inc.
20 N Wacker Dr
Chicago, IL 60602-4206

Job Number: 500-21700-1

Client Sample ID: TRIP BLANK
Lab Sample ID: 500-21700-6

Date Sampled: 10/06/2009 0000
Date Received: 10/09/2009 1445
Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate				Acceptance Limits	
Dibromofluoromethane	111	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)	111	%		72 - 135	
Toluene-d8 (Surr)	95	%		80 - 120	

DATA REPORTING QUALIFIERS

Client: Weston Solutions, Inc. Job Number: 500-21700-1

Lab Section	Qualifier	Description
Metals		
	B	Compound was f ound in the blankand sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approx imate v alue.
General Chemistry		
	HF	Field parameter with a holding time of 15 minutes

APPENDIX C
U.S. EPA FIELDS SIMPLE LINEAR REGRESSION AND DIAGNOSTICS RESULTS

Bautsch-Gray Mine Site
(Superfund Removal Assessment)
Simple Linear Regression and Diagnostics Results
(October 2009 sampling event)

Prepared By
John Bing-Canar, FIELDS Group, US EPA, Region V
Charles Roth, FIELDS Group, US EPA, Region V

13 November 2009

Simple linear regression and regression diagnostics were used to find the "best fitting" linear relationship between XRF measurements of metals in soil and tailings and their corresponding laboratory measurements using the SAS® software. This relationship is quantified into a model (equation) of XRF measurements of a metal and its corresponding laboratory measurement. The statistical methods employed were drawn from SAS® literature and three regression texts: Statistical Methods in Water Resources, 1992; and Applied Regression Analysis and Other Multivariate Methods, 1978 and 1988. (See "References" section for a complete list of regression resources.) Simple linear regression was performed for Lead (Pb). The data set used was from the October 2009 sampling event at the Bautsch-Gray Mine site. Sample collection was performed by the FIELDS Group and Weston, a U.S. EPA contractor, under the direction of Len Zintak, U.S. EPA On-Scene Coordinator (OSC).

The steps used to perform simple linear regression were:

1. Plot the data;
2. Computer the least squares regression statistics;
3. Examine adherence to the assumptions of regression using residual plots; and
4. Employ regression diagnostics (Helsel and Hirsch, 1992).

Lead (Pb)

There was a statistically significant linear regression relationship between XRF Lead values and their corresponding Laboratory value (see Figure 1, p-value associated with the F-value). However, given that there were two different matrices (soil and tailings) at the site, a comparison of regression lines was performed. (These comparisons are often called a test of parallelism and a test of equal intercepts.) These tests evaluate if there are different slopes and/or different intercepts for the regression equation depending on the matrix. Figure 2 demonstrates that there may be differences in slopes and intercepts for Lead values found in soil and tailings. Statistical confirmation that indeed there are differences in the slopes and intercepts by matrix is shown in Figure 3. In the bottom panel of Figure 3, the Type III sum of squares are shown. (The Type III sum of squares are used since the data are unbalanced, i.e., there is not an equal number of XRF and Lab Lead values by matrix. There were 21 XRF and Lab Lead values measured in soil but only 11 measured in tailings.) The p-values associated with the F-values demonstrate that the slopes (Pb*SAMPLE_TYPE) and the intercepts (SAMPLE_TYPE) are different by matrix. These results indicate that further regression and regression diagnostics need to be performed on each matrix separately.

Although the same model of InnovX XRF, α4000, was used to measure metal levels at the site, the possibility of differing results by device had to be evaluated since two XRFs with different serial numbers were used. As described above statistical tests were run to evaluate if there were different slopes and/or different intercepts for the regression equation depending on the XRF device. There were no statistically significant differences in slopes or intercepts for the regression equation by device (results not shown). Hence, further regression and regression diagnostics need to be performed only by different matrix, not also different XRF serial number.

Lead (Pb) in Soil

There was a statistically significant linear regression relationship between XRF Lead values and their corresponding Laboratory value, in soil. However, regression diagnostics found that some of the assumptions of regression were violated. These violations included heteroscedasticity and a lack of normality for these residuals (results not shown). To overcome these violations, the natural log of the XRF Lead values and their corresponding Laboratory value was taken. Figure 4 shows that there was a statistically significant linear regression relationship between the natural log of the XRF Lead values and their corresponding natural log of the Laboratory value, in soil. Figures 5 and 6 demonstrate that the assumptions of regression were met. Figure 5 shows that the residuals are homoscedastic and none of the Studentized residuals are greater than 2.5, a value used as a rule of thumb for potential outliers. Figure 6 shows that the residuals are normally distributed. (The null hypothesis of each of these four tests is that the residuals are from a normal distribution. If using an alpha value of 0.05, one would fail to reject the null hypothesis.) Normality of residuals is required in order to test the hypothesis that "the slope coefficient (β_1) is significantly different from zero" (Helsel and Hirsch, 1992).

In other words, in order to demonstrate a linear relationship between the two variables, XRF and Lab, the slope coefficient must be significant. The White test also found that the variance of the residuals were homogenous (results not shown). A visualization of the linear relationship between the Lead XRF and Lab values in soil is shown in Figure 7.

The parameters of the best linear fit equation for the relationship of Lead XRF and Lab values in soil are:

Adjusted LN Lead = 0.45 + (1.00)*(LN XRF Lead value)

However, as this equation is in natural log space, the antilog of the adjusted Lead value must be taken. For example, for an XRF Lead reading of 400ppm (5.99ppm in natural log space), the Adjusted LN_Pb value is 6.47ppm. The antilog of this value is 645ppm. Hence, an XRF Lead reading in soil of 400ppm is equivalent to an adjusted XRF Lead value of 645ppm in soil.

Lead (Pb) in Tailings

There was a statistically significant linear regression relationship between XRF Lead values and their corresponding Laboratory value, in tailings. However, regression diagnostics found that some of the assumptions of regression were violated. These violations included heteroscedasticity and a downward trend in the residuals (results not shown). To overcome these violations, the natural log of the XRF Lead values and their corresponding Laboratory value was taken. Figure 8 shows that there was a statistically significant linear regression relationship between the natural log of the XRF Lead values and their corresponding natural log of the Laboratory value, in soil. Figures 9 and 10 demonstrate that the assumptions of regression were met. Figure 9 shows that the residuals are homoscedastic and none of the Studentized residuals are greater than 2.5, a value used as a rule of thumb for potential outliers. Figure 10 shows that the residuals are normally distributed. (The null hypothesis of each of these four tests is that the residuals are from a normal distribution. If using an alpha value of 0.05, one would fail to reject the null hypothesis.) Normality of residuals is required in order to test the hypothesis that "the slope coefficient (β_1) is significantly different from zero" (Helsel and Hirsch, 1992). In other words, in order to demonstrate a linear relationship between the two variables, XRF and Lab, the slope coefficient must be significant. The White test also found that the variance of the residuals were homogenous (results not shown). A visualization of the linear relationship between the Lead XRF and Lab values in tailings is shown in Figure 11.

The parameters of the best linear fit equation for the relationship of Lead XRF and Lab values in soil are:

Adjusted LN Lead = 3.26 + (0.59)*(LN XRF Lead value)

However, as this equation is in natural log space, the antilog of the adjusted Lead value must be taken. For example, for an XRF Lead reading of 400ppm (5.99ppm in natural log space), the Adjusted LN_Pb value is 6.82ppm. The antilog of this value is 914ppm. Hence, an XRF Lead reading in tailings of 400ppm is equivalent to an adjusted XRF Lead value of 914ppm in tailings.

There are a couple of caveats to make regarding the regression of Lead XRF and Lab values in tailings. Firstly, there were only 11 observations used for the regression. Although the regression is significant, eleven observations is a low number for regression purposes. Secondly, the XRF used to measure metal levels is calibrated for soil. Its use in non-soil matrices will give different results than in soil. In this case, the XRF readings of Lead in tailings were significantly less than those measured in the laboratory. Nonetheless, the XRF can still be used as an in-field measuring device as the relationship of XRF values and lab values is linear.

References:

Chen, X., Ender, P., Mitchell, M. and Wells, C. (2003). Regression with SAS, from http://www.ats.ucla.edu/stat/sas/webbooks/reg/default.htm

Helsel, D.R. and Hirsch R.M., Statistical Methods in Water Resources, Elsevier, Amsterdam, 1992.

Kleinbaum, D.G. and Kupper, L.L., Applied Regression Analysis and Other Multivariate Methods, Duxbury Press, Boston, Massachusetts, 1978.

Kleinbaum, D.G., Kupper, L.L., and Muller, K.E., Applied Regression Analysis and Other Multivariate Methods, Second Edition. PWS-Kent Publishing Company, Boston, Massachusetts, 1988.

SAS Help, version 9.1.3. Search for "influence statistics", then select "REG procedure"

SAS Institute Inc., SAS/STAT® User's Guide, Version 8, Cary, NC: SAS Institute Inc., 1999. (Chapter 55, The REG Procedure)

SAS Institute Inc., SAS® System for Regression, Second Edition, Cary, NC: SAS Institute Inc., 1991. 210pp.

Contact:

Please contact John Bing-Canar (bing-canar.john@epa.gov or 312.886.6182) or Chcuk Roth (roth.charles@epa.gov or 312.886.0242) about this document.

Regression of the Lead Lab and XRF values
Regression diagnostics
Bautsch-Grey Min Site
October 2009 sampling event

The REG Procedure
Model: MODEL1
Dependent Variable: Lab_Pb_ppm Lab Lead (ppm)

Number of Observations Read	32
Number of Observations Used	32

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	58238697	58238697	649.50	<.0001
Error	30	2690021	89667		
Corrected Total	31	60928718			

Root MSE	299.44512	R-Square	0.9558
Dependent Mean	1054.35938	Adj R-Sq	0.9544
Coeff Var	28.40067		

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	43.13505	66.15524	0.65	0.5193
Pb	XRF Lead (ppm)	1	1.47584	0.05791	25.49	<.0001

Figure 1: Simple linear regression output from the SAS software for XRF Lead and Lab values

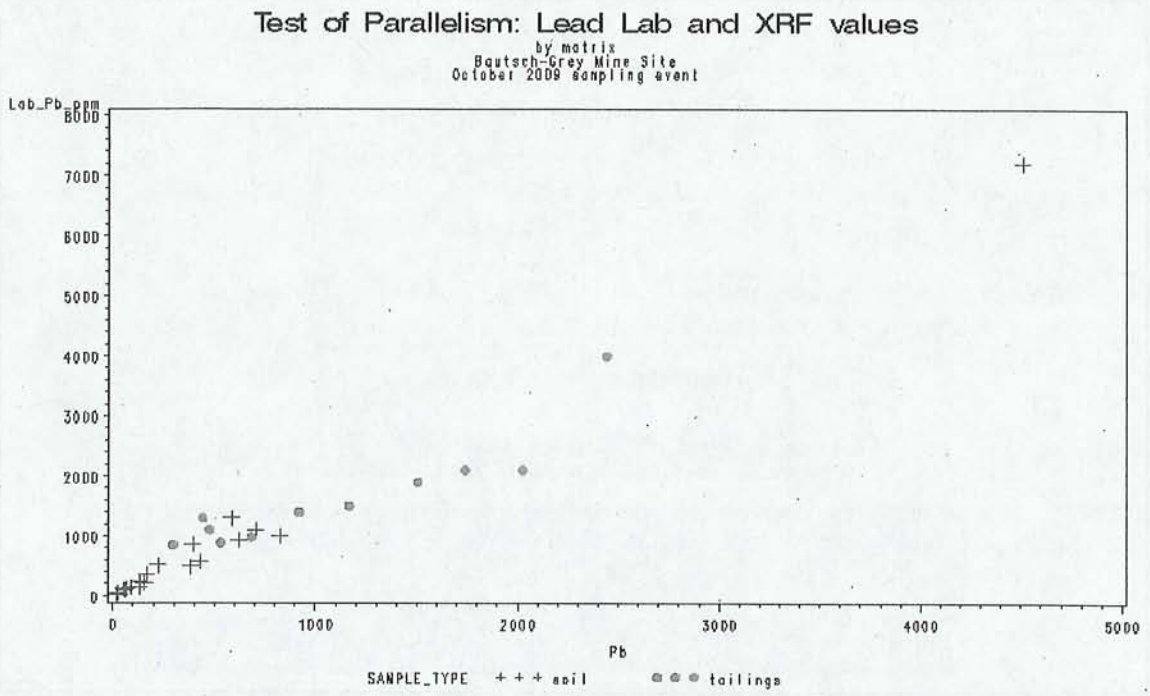


Figure 2: Scatter plot of Laboratory and XRF Lead values by matrix (soil and tailings)

Test of Parallelism: Lead Lab and XRF values
by matrix
Bautsch-Grey Mine Site
October 2009 sampling event

The GLM Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	59115686.81	19705228.94	304.32	<.0001
Error	28	1813031.31	64751.12		
Corrected Total	31	60928718.12			

R-Square	Coeff Var	Root MSE	Lab_Pb_ppm Mean
0.970243	24.13431	254.4624	1054.359

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Pb	1	58238696.69	58238696.69	899.42	<.0001
SAMPLE_TYPE	1	27306.31	27306.31	0.42	0.5214
Pb*SAMPLE_TYPE	1	849683.81	849683.81	13.12	0.0011

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Pb	1	30185627.66	30185627.66	466.18	<.0001
SAMPLE_TYPE	1	367131.26	367131.26	5.67	0.0243
Pb*SAMPLE_TYPE	1	849683.81	849683.81	13.12	0.0011

Figure 3: Test of parallelism and slope for XRF Lead and Lab values by matrix (soil and tailings)

Regression of the Natural Log of Lead Lab and XRF values
Regression diagnostics
Bautsch-Grey Mine Site
October 2009 sampling event

The REG Procedure
Model: MODEL1
Dependent Variable: LN_lab LN Lab Lead (ppm)

SAMPLE_TYPE=soil

Number of Observations Read	21
Number of Observations Used	21

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	38.27451	38.27451	699.76	<.0001
Error	19	1.03924	0.05470		
Corrected Total	20	39.31375			

Root MSE	0.23387	R-Square	0.9736
Dependent Mean	5.63398	Adj R-Sq	0.9722
Coeff Var	4.15113		

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	0.45398	0.20236	2.24	0.0370
LN_XRF	LN XRF Lead (ppm)	1	1.00459	0.03798	26.45	<.0001

Figure 4: Simple linear regression output from the SAS software for XRF Lead and Lab values in soil

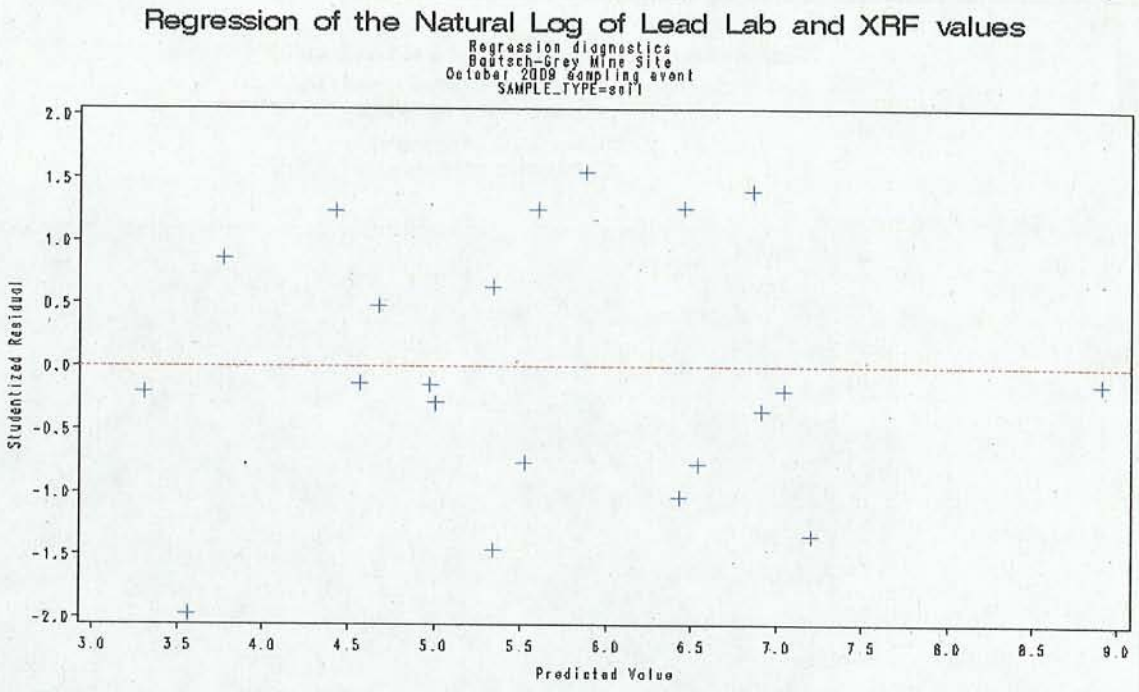


Figure 5: Residual plot from the SAS software for the Natural Log of the XRF Lead and Lab values in soil

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.918083	Pr < W	0.3030
Kolmogorov-Smirnov	D	0.217294	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.0687	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.409801	Pr > A-Sq	>0.2500

Figure 6: Tests of Normality from the SAS software for residuals from the Natural Log of the XRF Lead and Lab values in soil

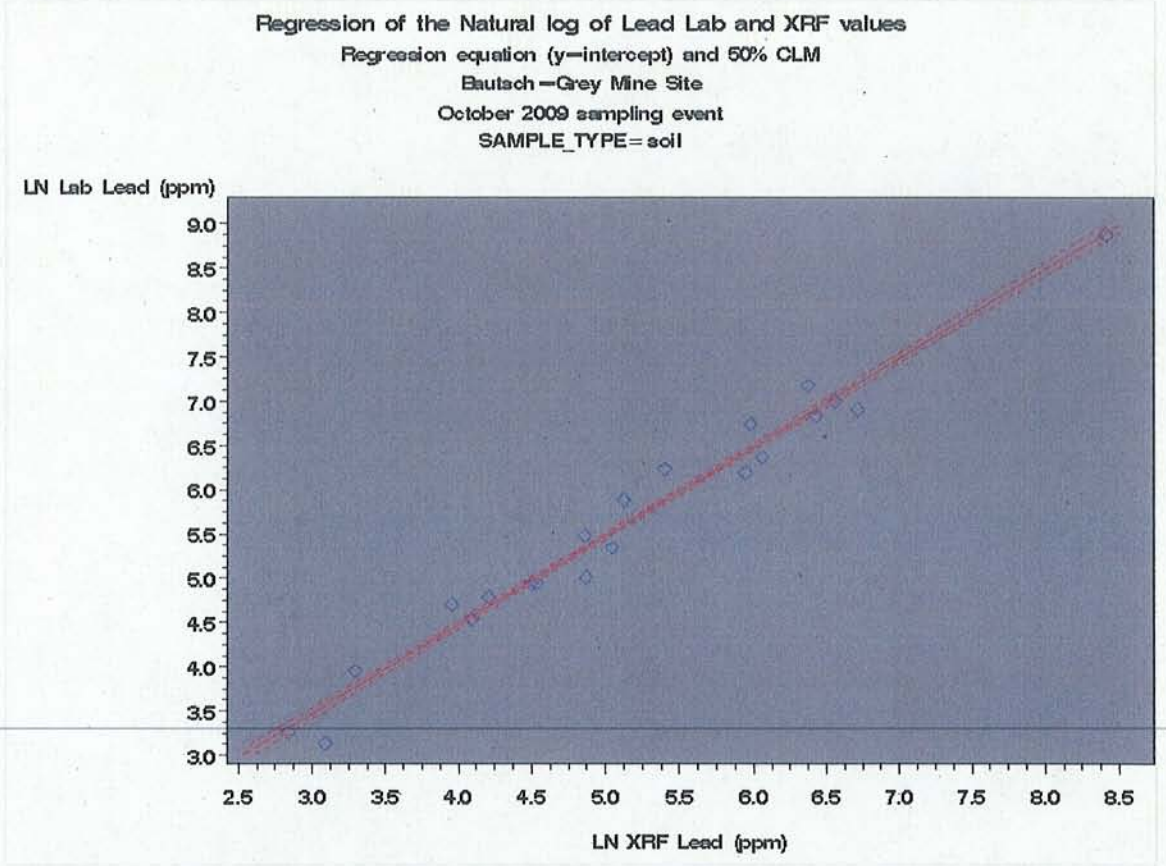


Figure 7: Best-fit linear regression line from the SAS software for the Natural Log of the XRF Lead and Lab values in soil

Regression of the Natural Log of Lead Lab and XRF values
Regression diagnostics
Bautsch-Grey Mine Site
October 2009 sampling event

The REG Procedure
Model: MODEL1
Dependent Variable: LN_lab LN Lab Lead (ppm)

SAMPLE_TYPE=tailings

Number of Observations Read	11
Number of Observations Used	11

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	1.73274	1.73274	37.75	0.0002
Error	9	0.41308	0.04590		
Corrected Total	10	2.14582			

Root MSE	0.21424	R-Square	0.8075
Dependent Mean	7.29928	Adj R-Sq	0.7861
Coeff Var	2.93505		

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	3.26406	0.65991	4.95	0.0008
LN_XRF	LN XRF Lead (ppm)	1	0.59314	0.09653	6.14	0.0002

Figure 8: Simple linear regression output from the SAS software for XRF Lead and Lab values in tailings

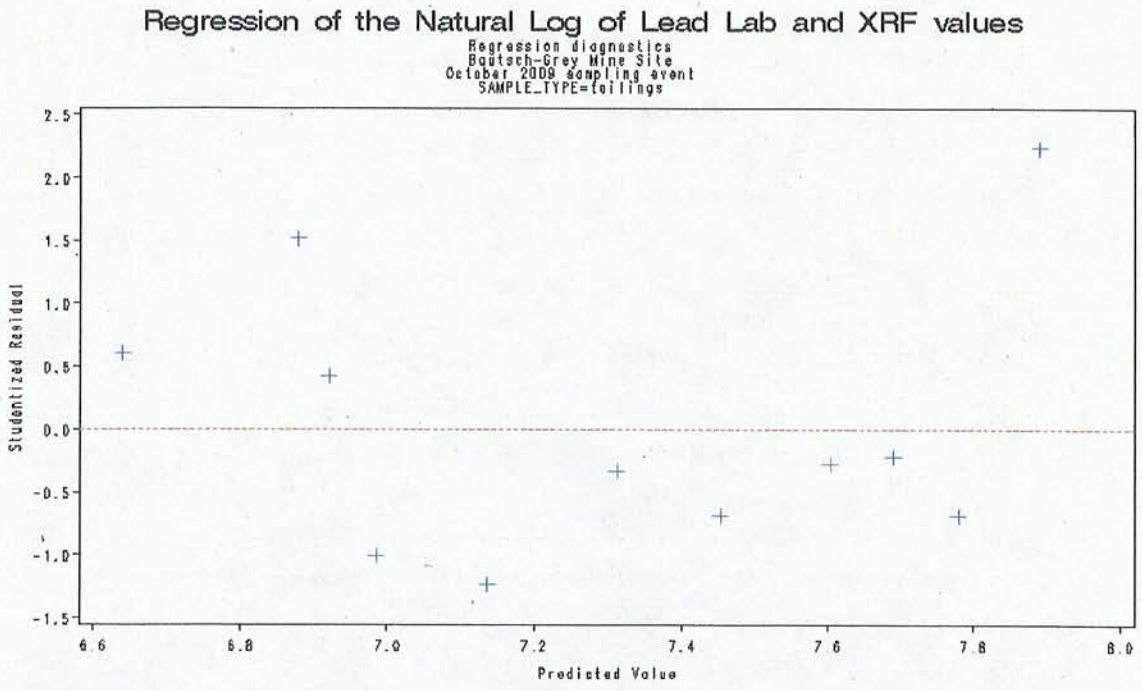


Figure 9: Residual plot from the SAS software for the Natural Log of the XRF Lead and Lab values in tailings

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.950227	Pr < W	0.3440
Kolmogorov-Smirnov	D	0.162783	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.066582	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.402958	Pr > A-Sq	>0.2500

Figure 10: Tests of Normality from the SAS software for residuals from the Natural Log of the XRF Lead and Lab values in tailings

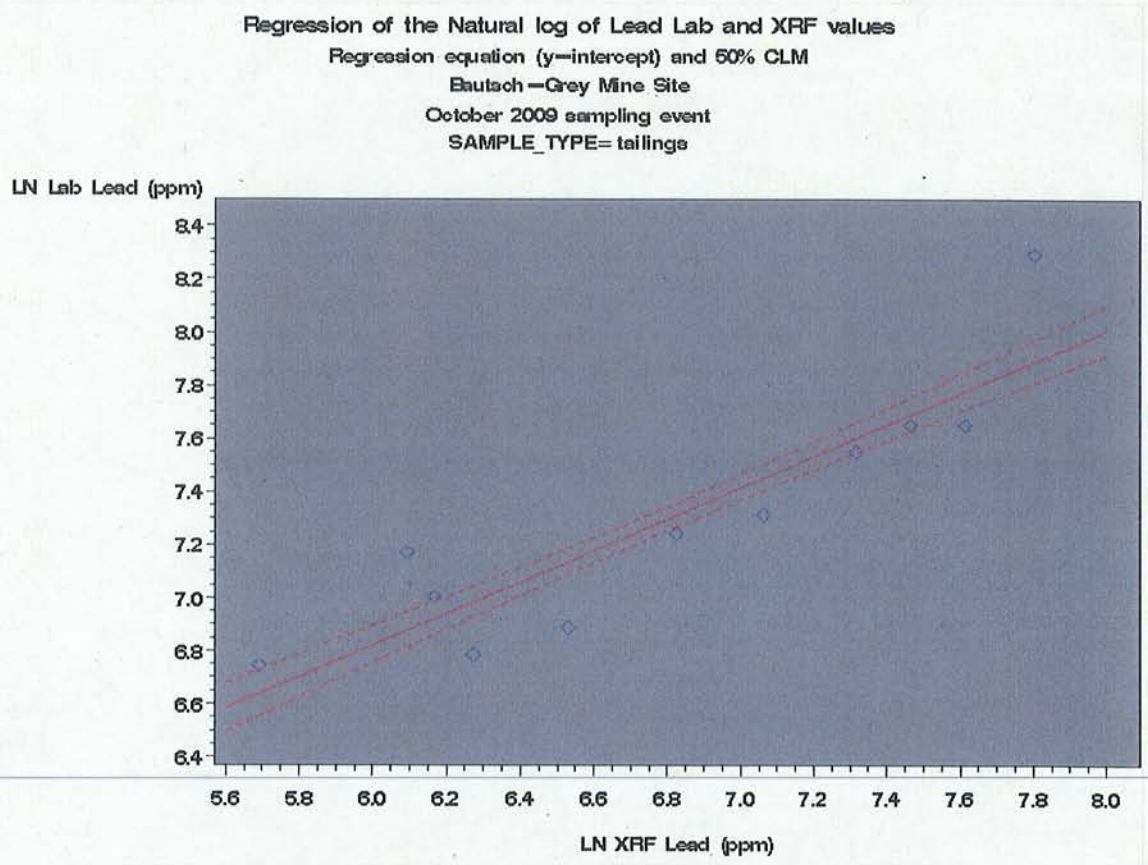


Figure 11: Best-fit linear regression line from the SAS software for the Natural Log of the XRF Lead and Lab values in talings